Newsletter
April 1996

In this issue...

Amiga Emulator revealed
Programming books reviewed
AmiTCP Installation explained
Latest Amiga News

HONOURARY CUGI OFFICIALS

Chairman	Karl Jeacle `karl@jeacle.ie`
Treasurer	Colin Dalton `csdalton@tcd.ie`
Secretary	Kevin Phair `a3000@indigo.ie`
Communications Officer	Matt Brookes `mtb@broadcom.ie`
Newsletter Editor	Gavin McConnon `alien@indigo.ie`
Librarian	David Fitzgerald `dftiz@indigo.ie`
Technical Consultant	Eddy Carroll `ecarroll@iol.ie`

CUGI meetings are held on the third Sunday of each month from 3 pm to 6 pm in Room 54 at St Andrew's College, Booterstown. Correspondence should be addressed to:

CUGI
c/o St Andrew's College,
Booterstown,
Co Dublin

You can reach CUGI by Internet mail at cugi@ieunet.ie, or individual committee members at the network addresses listed above.

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Newsletter

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April 1996

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The deadline for articles for the next Newsletter is August 15, 1996

Editorial

by Gavin McConnon

WELCOME To the April Newsletter. Yes, I will say that again, April Newsletter. You are reading what is sure to be the most delayed newsletter in CUGI's thirteen year history. Of course, as ever, it was planned this way to bring you the latest Amiga news J

Escom Bust

Those who have been keeping up with the Amiga will know by now that Escom, the German computer manufacturer, who bought the Amiga only last year have filed for bankruptcy. However, all is not lost for the Amiga. In a last minute effort, a US Set-top-box manufacturer VISCorp bought the Amiga from Escom. There are also a few companies that still have license agreements to use the Amiga custom chips.

Year Ahead

The time is coming once again for the AGM, and this year its not looking so good. CUGI holds its AGM every year in parallel to the October meeting. The current committee has noticed a lack of enthusiasm and people to run for next years committee. A number of the current committee plan to step down next year and unless the club can get the necessary volunteers to run at election time then the future is bleak.

Newsletter Time?

So you are reading this and saying you thought it was time for a July, and not April newsletter. Well right you are, it seems that the July issue is already late. If you do feel compelled to write a article or let us know what you are up to, now is your chance. Hey this time we may get the July issue out before the October one is due.

The Next Meeting?

The next CUGI meeting, on August 18th promises to probably be the best of the year. We are also hoping to have a large screen video projection system, to "beam" our screens onto the large wall, rather than being displayed on our new 28" TV set. Kevin is hoping to bring along his new 060 card, bringing a old system right up to spec. Those of you who have seen UAE (see Colin's article on page 3) will remember how slow it was. Well this time we plan to run it on a fast Laptop, giving you a truly portable Amiga.

Happy reading,

GMC

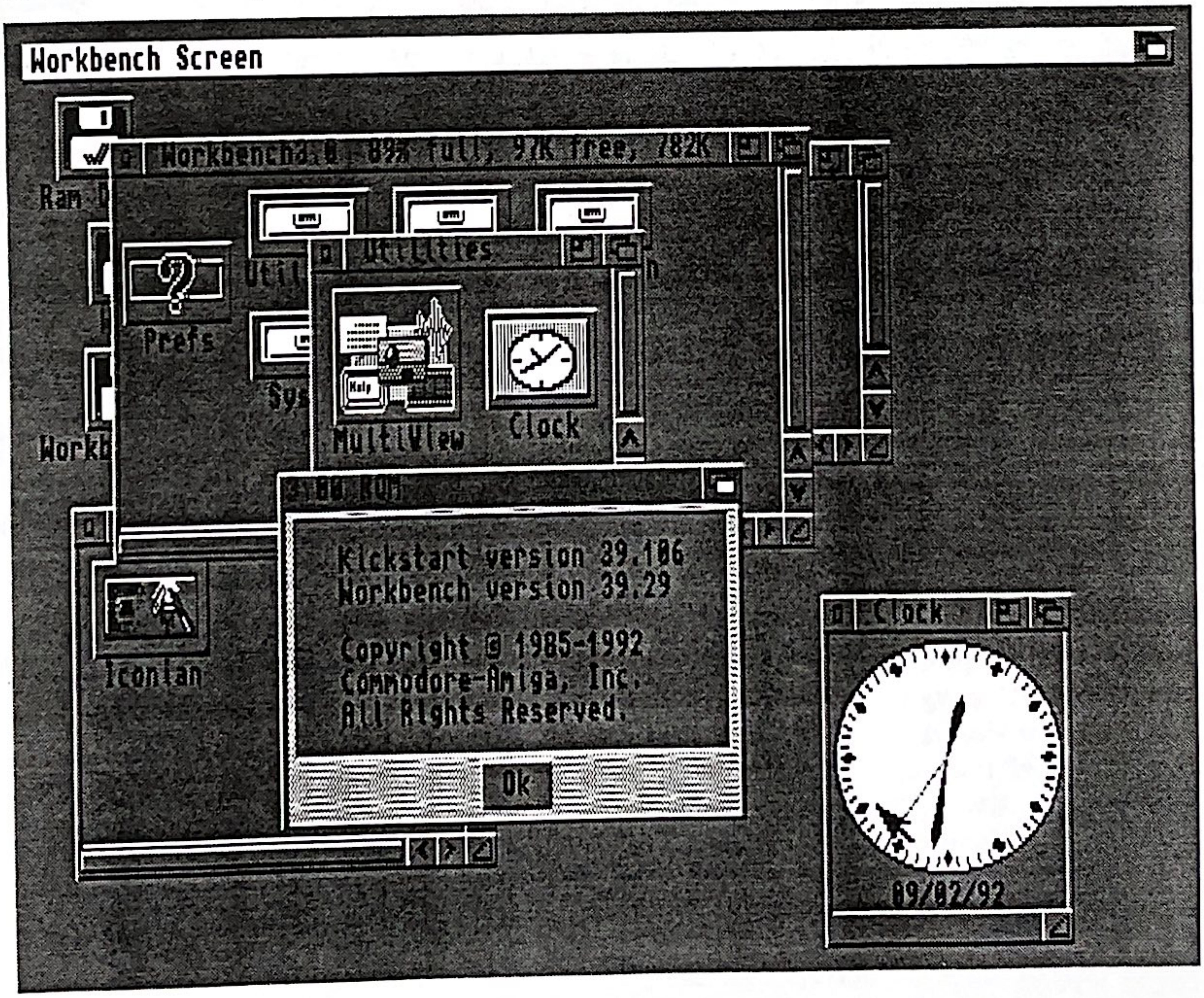
Unbelievable! Amiga Emulator

By Colin Dalton

FOR years they said it just couldn't be done. The Amiga was too complicated, a viable emulator would be next to impossible to make, and far too slow. Well, technology in the PC world has finally caught up, and thanks to the efforts of Bernd Schmidt, it is now possible to emulate the Amiga on a variety of platforms. UAE emulates a 68000-based A500 with the OCS chipset, 2MB of CHIP RAM (no, you can't have that with a real OCS Amiga!), and a variable amount of FAST RAM.

The original emulator was written for Unix machines, Linux in particular. Since then, it has been ported to DOS, the Macintosh, the BeBox, various other flavours of Unix, and the Amiga itself. The latter may seem a bit odd, but consider the advantages to programmers of having a "virtual Amiga" in a window. Early versions of UAE were hard to compile and not that fast, but it has come along in leaps and bounds in recent months. The latest Unix version boasts sound, it can use a directory on your hard disk as the Amiga hard disk, and runs some software (mainly demos and games) that won't even run on real AGA machines.

As you can see from the screenshots, the emulator performs just like an Amiga, even with demanding, graphically-intensive programs. However, the author admits that the sprite emulation isn't 100% just yet, and the serial and parallel ports aren't implemented yet. Another sticking point is speed. You are going to need



Kickstart version 39.106
Workbench version 39.29

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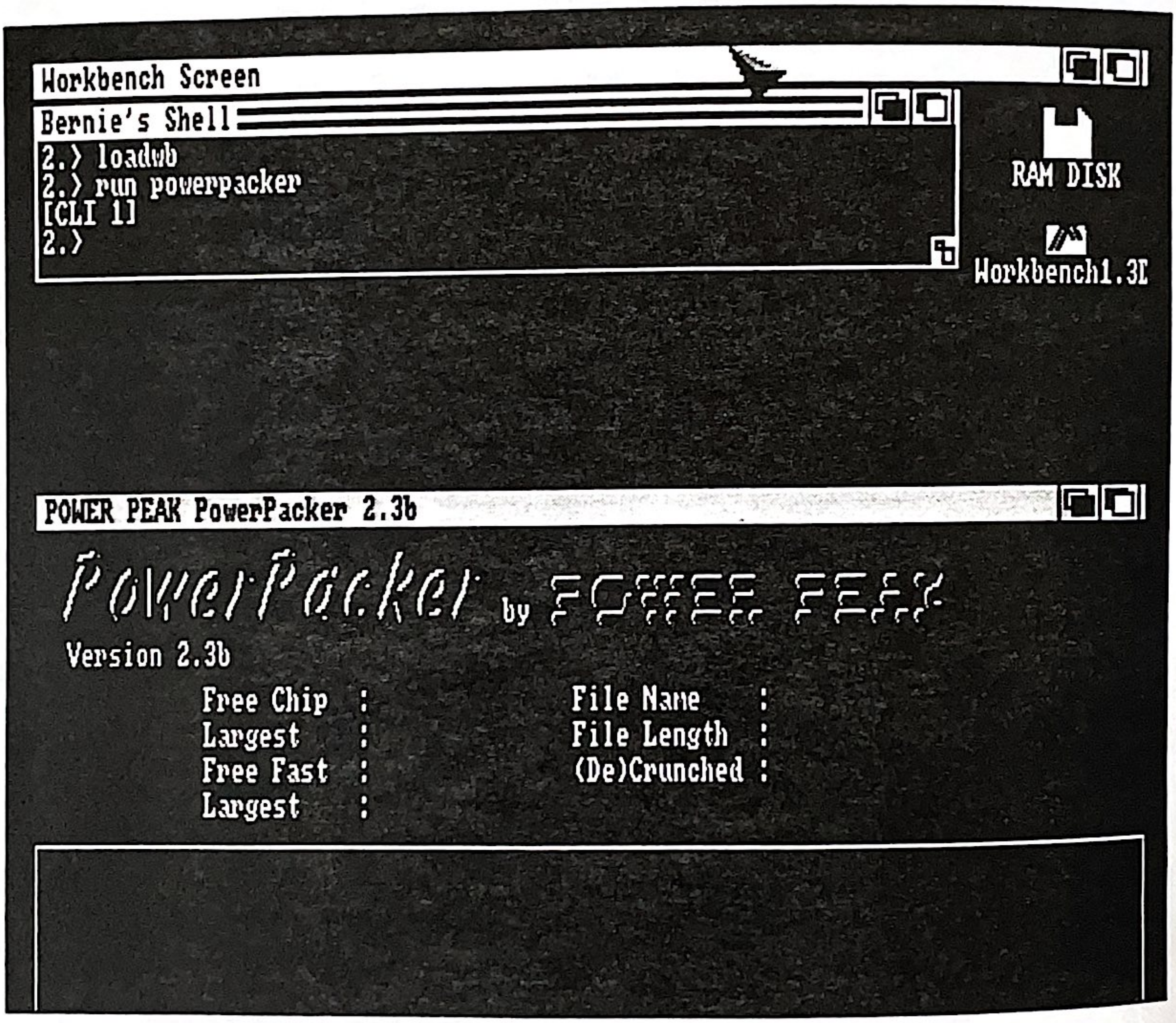
Commodore-Amiga, Inc.
All Rights Reserved.

a very fast machine to get acceptable speed from the emulator. A 200 MHz Pentium Pro would be nice!

However, in my opinion, UAE can't actually replace a real Amiga, since it is still too slow. However, if you have sold your Amiga, and are pining for the old days, this is a great (and cheap) way of running all your old Amiga stuff on your new Mac or PC. However, it's still not possible for other machines to read the Amiga's disk format, so you'll have to put your Amiga stuff on a PC format disk or download it from somewhere.

More information, and the latest version, can be found at the UAE home page at `http://www-users.informatik.rwth-aachen.de`



```
2.> loadwb
2.> run powerpacker
[CLI 1]
2.>
```

```
Version 2.3b
        Free Chip  :            File Name     :
        Largest    :            File Length   :
        Free Fast  :            (De)Crunched  :
        Largest    :
```

You can even drag Amiga screens on a Unix system!

Programmer's Bookshelf

by Eddy Carroll

COMPUTER books have been one of the quickest growing sections of the publishing industry in recent years. If Microsoft announces a new application one week, you can be sure there will be 10 books describing how to use it the next.

The same is true of programming books. Whether your interest is in C++, Java, Delphi, or any number of other areas, there are literally hundreds of titles all vying for your attention. Although many titles claim to get you started in programming, titles for intermediate and advanced programmers are more difficult to find, and when you do, it can be difficult to sort the wheat from the chaff.

I thought it might be worthwhile to have a browse through my own library, and highlight some books that should be on every programmer's shelf. Most of these books are not specific to any particular language, and some may be hard to find. I've always found MicroMail in Cork the best source for such things (phone 021 310756).

So, without further ado, let's get started.

Tricks of the Trade

For a simple guide to the most important programming algorithms, along with example code to implement them, it's hard to beat Robert Sedgewick's *Programming Algorithms* (also available as *Programming Algorithms in C* for those who prefer C to pseudo-code). This is a large book, and it covers algorithms on sorting, searching, indexing, permutations, pattern matching, graphs, and so on. If you're writing any program of substance, you will almost certainly find yourself using one or more of these algorithms, so it's an excellent idea to have a definitive reference on hand!

Many of the programmer's journals like *Dr Dobbs Journal* and the late *Computer Language* have regular columnists, and from time to time, these authors collect their writings into books. Probably the most useful such collection is the three volume series *Programming on Purpose* by P.J. Plauger. These three volumes cover software design, software people, and software technology in that order, and they are all well worth a read. Plauger is a good writer who not only knows his stuff, but also knows how to make it entertaining.

Another excellent collection is Jon Bentley's *Programming Pearls*, and the sequel, *More Programming Pearls*. Bentley writes a monthly column for the ACM programming journal, and operates by taking a simple programming problem and then showing a variety of ways to approach it. It may sound dull, but on the contrary, his columns are always fascinating, and you will find they contain many useful tricks of the programming trade which are not available anywhere else.

If you program in C or C++, *The C Programming Language (Second Edition)* by Kernighan and Ritchie is well worth investing in. Although some people find it a little terse, it's still the best reference work you'll find on C, and it contains many examples that help clarify the relationship between the C language and the C standard library. If you're not already familiar with C, but do know how to program in another language (especially assembly language) then you'll find this makes a good introduction to C as well.

More useful information on programming tools of the trade can be found in two other books: *Software Tools* and *The Elements of Pro-*

gramming Style by Kernighan and Plauger. Not much else to say about these, except that they are both well worth tracking down and reading.

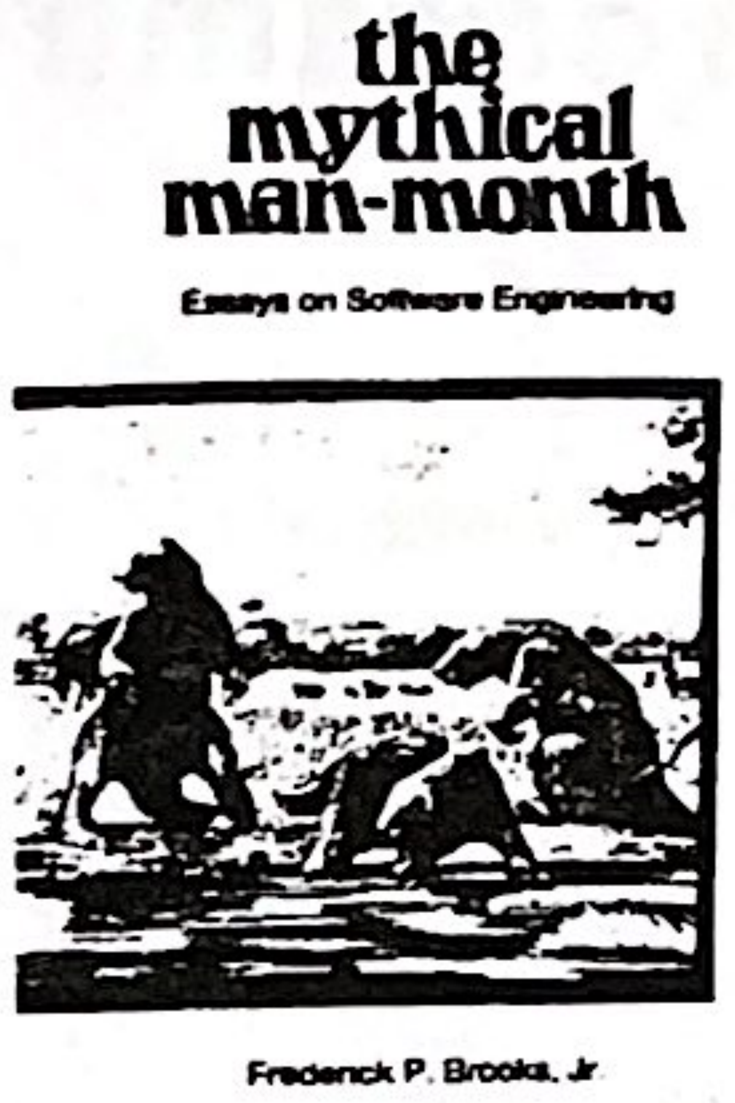
Touching on Theory

Most serious programmers are familiar with the name Donald Knuth—as well as developing the TeX typesetting system (which was used to produce this newsletter until recently) he is the author of *The Art of Computer Programming* — a massive seven volume series which details almost everything you need to know about programming theory and practice. It's so complete, in fact, that only the first three volumes have actually been released; volume four is due out within the coming year, and the remaining three volumes have yet to be written.

Now, this series is not easy going for the casual reader. (*Volume 3: Searching & Sorting* is probably the most generally useful). However, Knuth has published another book which is a good, readable introduction to his work: *Literate Programming*. This describes in some detail Knuth's system for writing readable programs. Don't be put off though; it includes many articles he has published over the past 15 years, along with some interesting insights into TeX.

Knuth even includes a full listing of all the bugs reported in TeX since it was first released, along with an explanation as to how they came about. When TeX was first released, he decided to offer a reward for each new bug reported. The reward started at $0.01 in 1975 or so, and was doubled each year until 1991 (when it had reached about $655.36 per bug!). Wouldn't it be nice if, say, Microsoft paid *you* to report bugs, instead of the other way around?

One book that many more people have heard about than have read is *The Mythical Man Month* by Fred Brooks. Brooks was the manager of the IBM 360 operating system project, which was one of the most expensive and overrun projects of the '70s. This book is his account of the lessons learned from the experience, and it contains much useful advice. The "man month" in the title refers to the unit used by managers of that time when creating software schedules; the view of many was that by doubling the number of man months, you could halve the time needed to produce the software. (This is like saying that if one women can produce a baby in 9 months, two women can do it in only 4.5 months!)



Not all of the book is relevant to today's computer world; for example, disk and memory space are at less of a premium now than they once were. However, much is still valid. Although it won't necessarily make you a better programmer, it will teach you a lot about how big projects operate. It's also written with humour, so it's not hard going!

Try and get the recently published 20th Anniversary Edition, rather than the original; the new version fixes some mistakes, and also includes some additional useful material.

Professional Programming

Let's finish off by looking at *Code Complete*, by Steve McConnell. This is a huge book, and it covers just about everything to do with programming, except for the actual programming itself. That is, how to organise big projects, what kinds of tools are useful to have around, dealing with source code control, tracking bugs, and so on. If you do most of your programming for your own amusement, you probably won't find it that useful. If, on the other hand, you are programming inside a company, you will find it a fund of invaluable information.

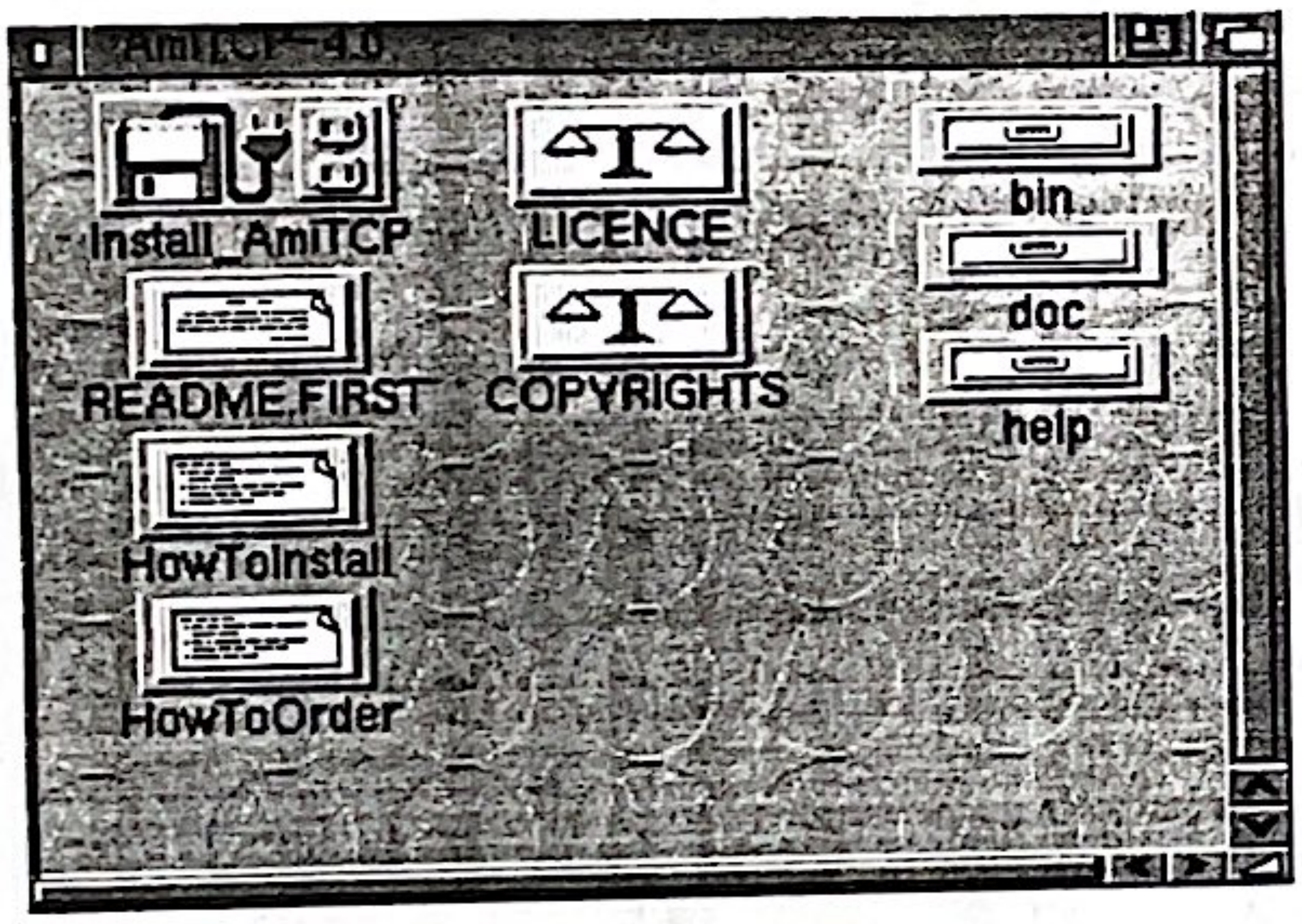
Any of the above titles is well worth taking the time to read, but of course, there are many other worthwhile titles too! If anyone has a particular area of interest they'd like me to cover, drop me a line at `ecarroll@iol.ie`. If on the other hand, you think the CUGI newsletter already has far too much about programming stuff, I'd like to hear that too!

Installing AmiTCP: step-by-step

by Karl Jeacle

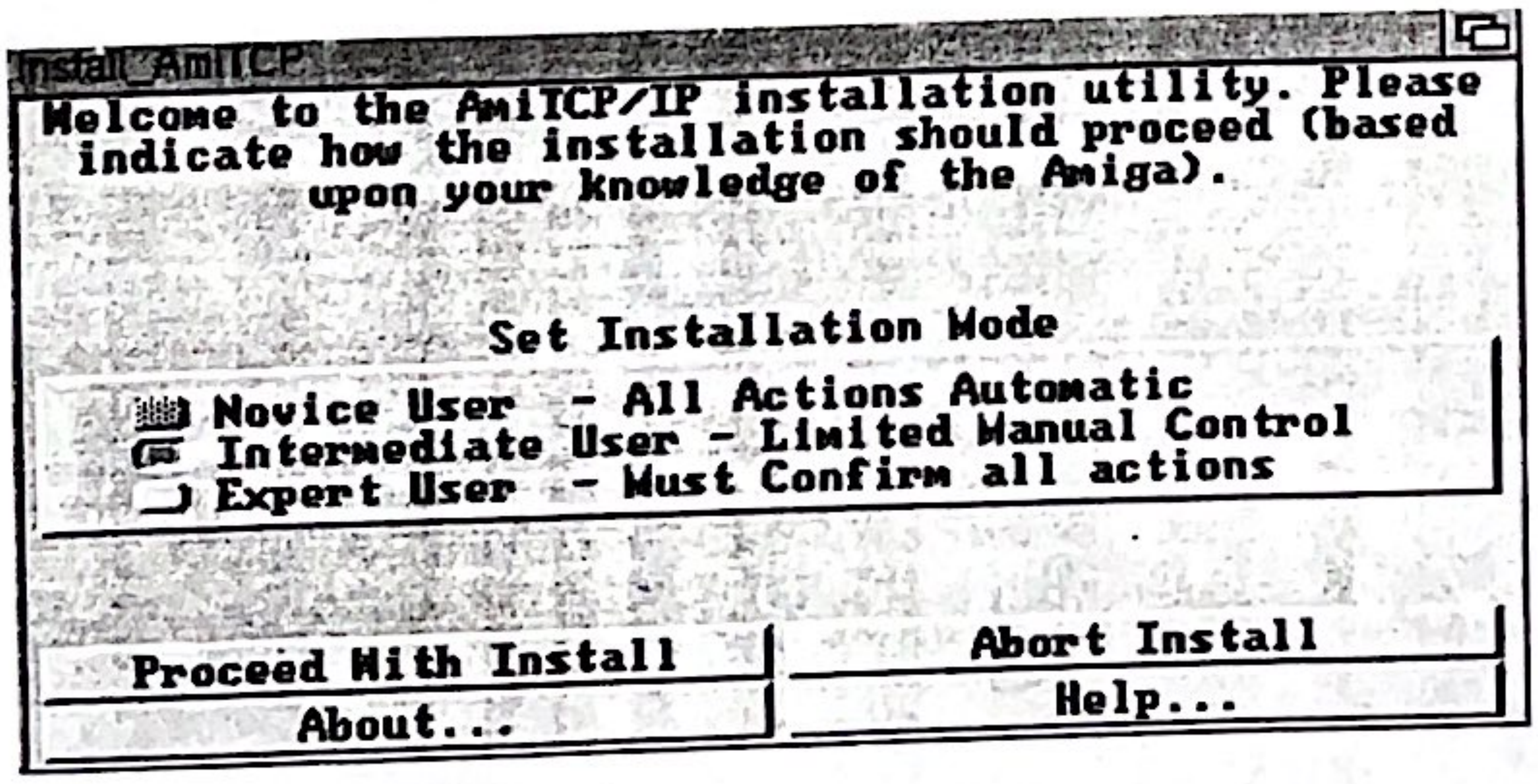
LET'S go through the AmiTCP installation process step by step. The TCP/IP stack is the most complicated piece of software required for Internet access, and unless you have a strong Unix or communications background, you'll probably find the installation process somewhat bewildering.

After you have unpacked the AmiTCP demo archive, you will find an "AmiTCP-4.0" drawer on your system.



AmiTCP comes with a standard Commodore Installer script which helps automate the installation process. Double-click the "Install_AmiTCP" icon when you're ready to install.

Your first choice, as with all Installer scripts, will be to set the installation mode to that of "Intermediate" or "Expert" mode. If you want to double-check everything in the install process, then you can choose Expert mode, but otherwise you should just leave the default Intermediate mode active, and click "Proceed".



Welcome to the AmiTCP/IP installation utility. Please indicate how the installation should proceed (based upon your knowledge of the Amiga).

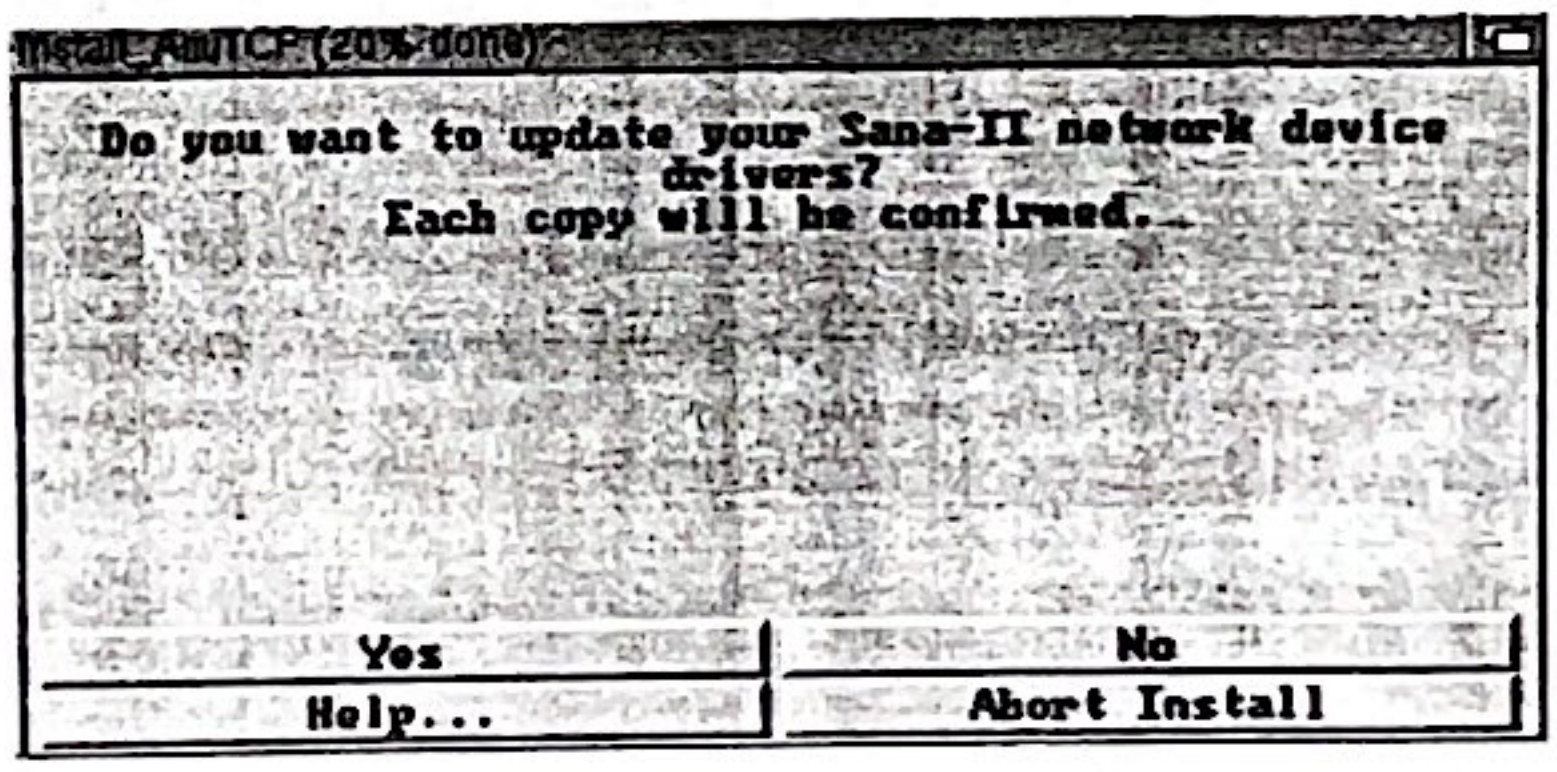
Set Installation Mode

○ Novice User - All Actions Automatic
● Intermediate User - Limited Manual Control
○ Expert User - Must Confirm all actions

Next, you will be asked if you want to install for real, or whether you just want to have a trial run by pretending to install. Again, leave the default option active, and install for real.

You now have to choose where to install AmiTCP on your hard disk. Pick a directory on your system where you plan on keeping all your Internet related programs.

AmiTCP talks to network devices such as modems via "Sana-II" device drivers. You will be asked if you want to update any devices that you may already have installed on your system. Choose "Yes", and then check that each device AmiTCP attempts to install is newer than any existing version already installed on your system.

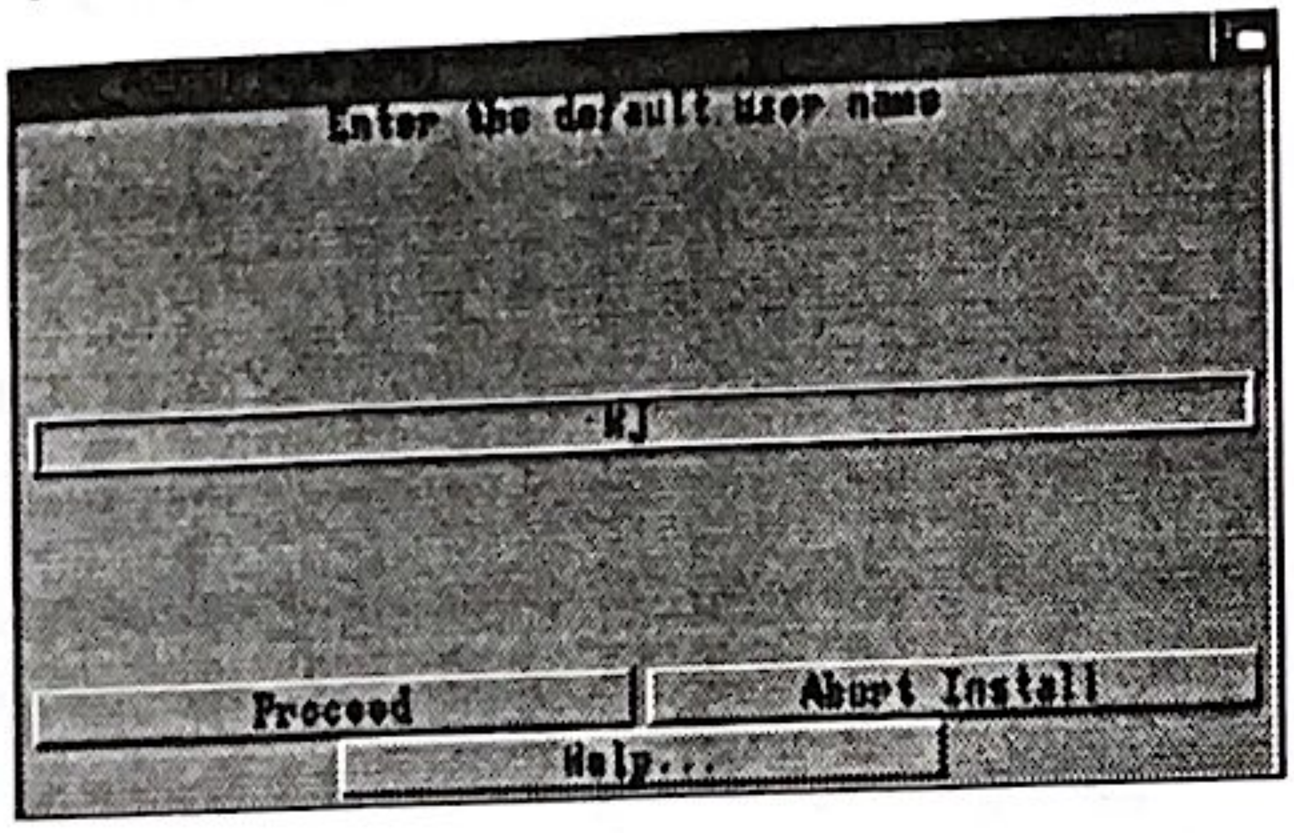


Do you want to update your Sana-II network device drivers?
Each copy will be confirmed.

Napsaterm is a small terminal program that comes bundled with AmiTCP. You are given the option to install the fonts that come with Napsaterm. Unless you really have a good reason to do otherwise, you should go ahead and install the fonts.

If you have previously installed AmiTCP, you will be asked if you want to use settings from that installation. However, since this is likely to be your first time installing AmiTCP, you can just ignore this, and click No.

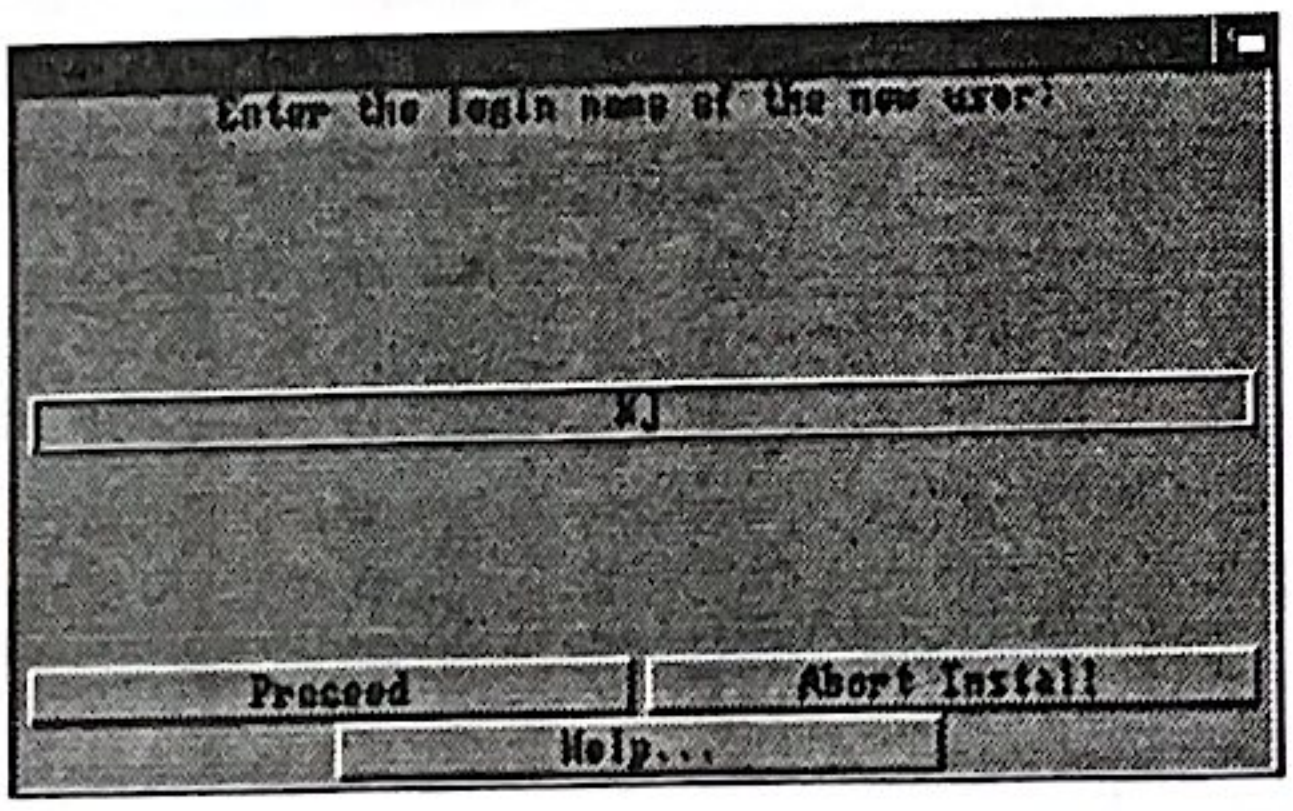
AmiTCP will next ask for a default user name. This can be anything you like, but if you want to avoid confusion down the road, it makes a lot of sense to use the same login name for AmiTCP that your ISP has given you on their system.



Enter the default user name

KJ

What you just entered was the default user which AmiTCP will login when it starts up. You now have to actually add that user to your system, so just enter your login name again.

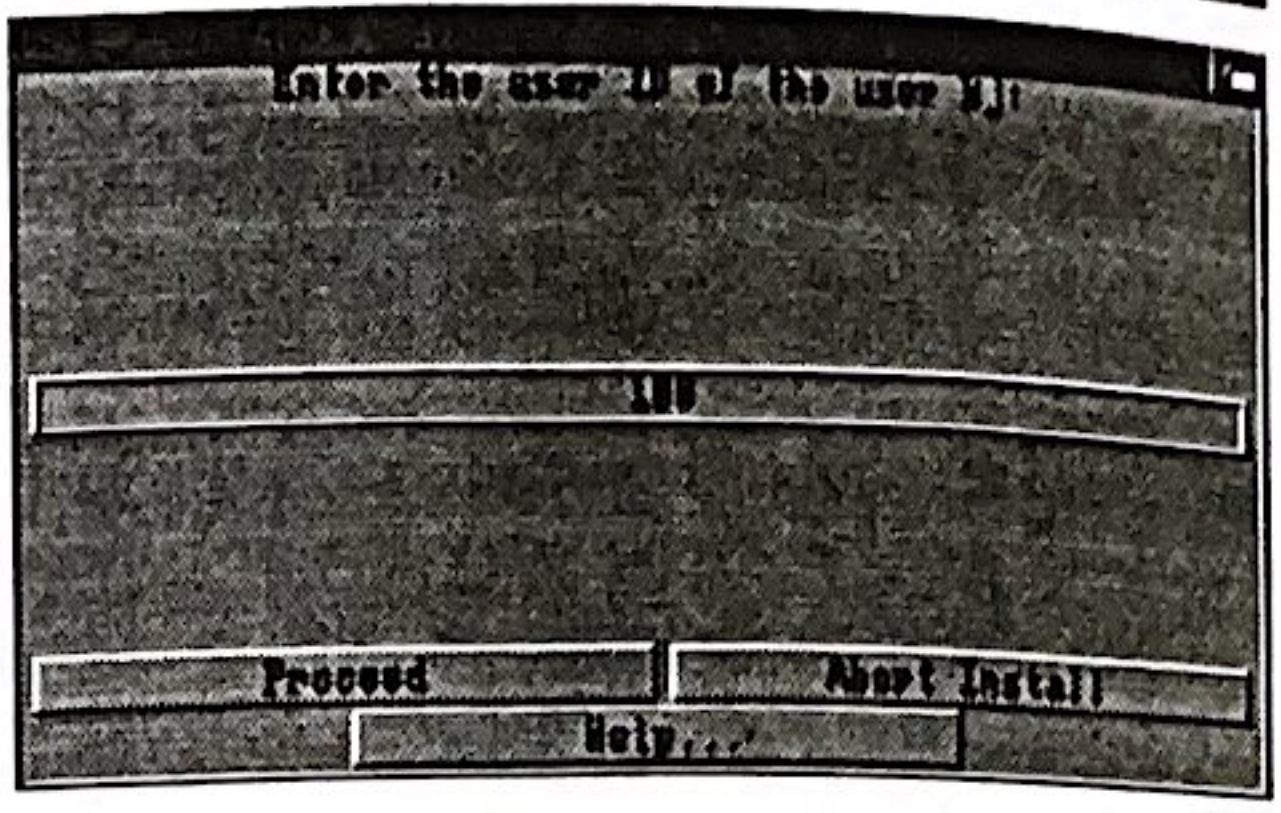


Enter the login name of the new user:

KJ

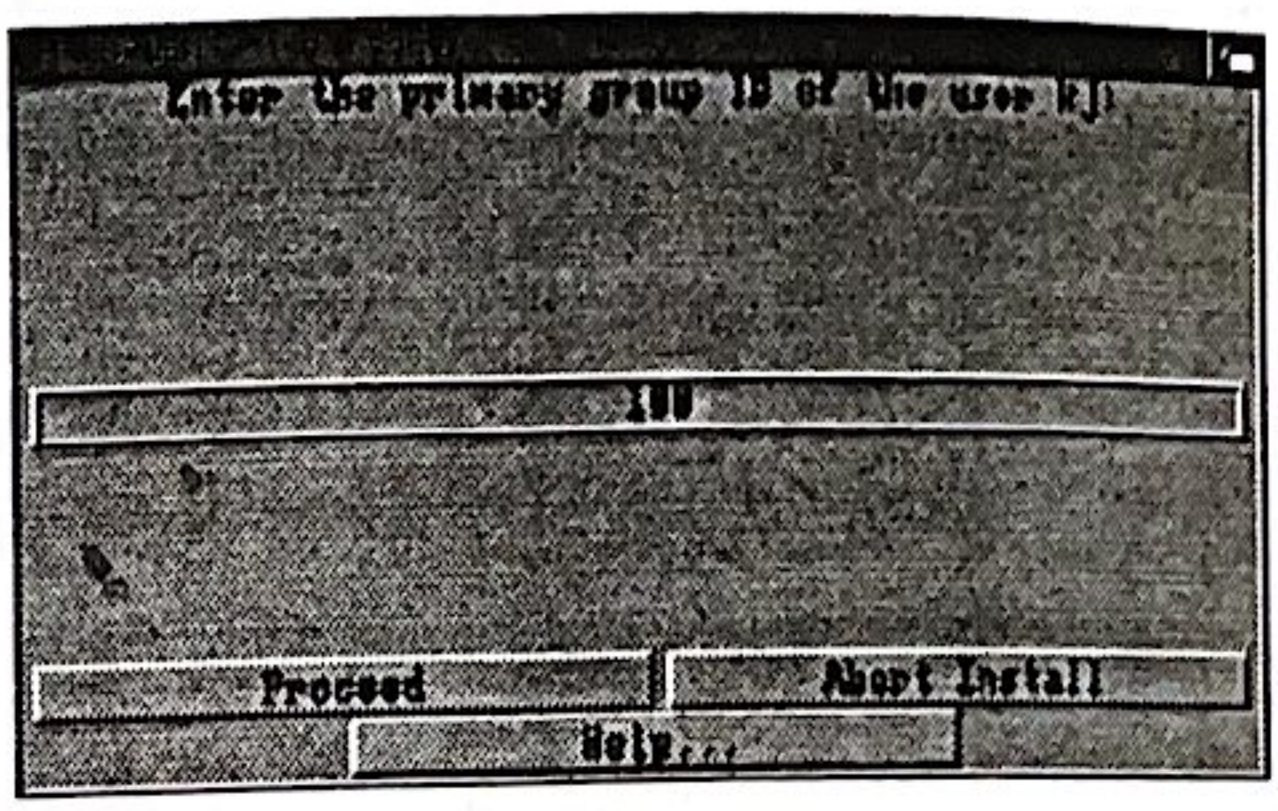
Next you have to enter a User ID (UID) and Group ID (GID). This comes from Unix and other multi-user systems. Each user on a networked computer has to have an ID number associated with him or her. Computers like numbers and so a UID is a lot more useful to it than an english word. The GID is supposed to represent the group you belong to. In the real world, this might be a number representing departments such as Sales, Marketing, Accounts, Engineering, and so on.

In our simple Amiga world, you can just choose the default UID and GID of 100. The reason that AmiTCP supports UIDs and GIDs is that it allows you to



Enter the user ID of the user KJ:

100

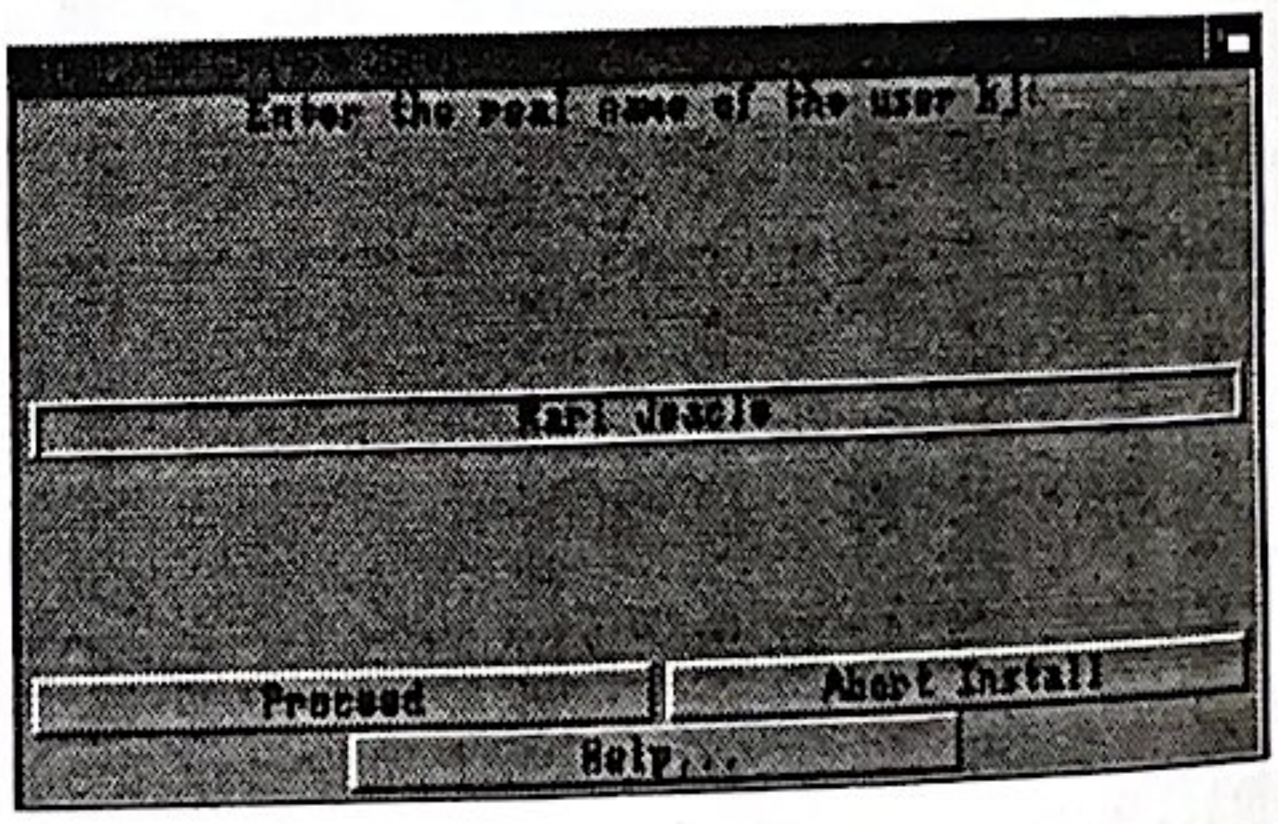


Enter the primary group ID of the user KJ:

100

have multiple user setups on your system, so you could, for example, allow friends on the Internet to remotely access/login to your Amiga.

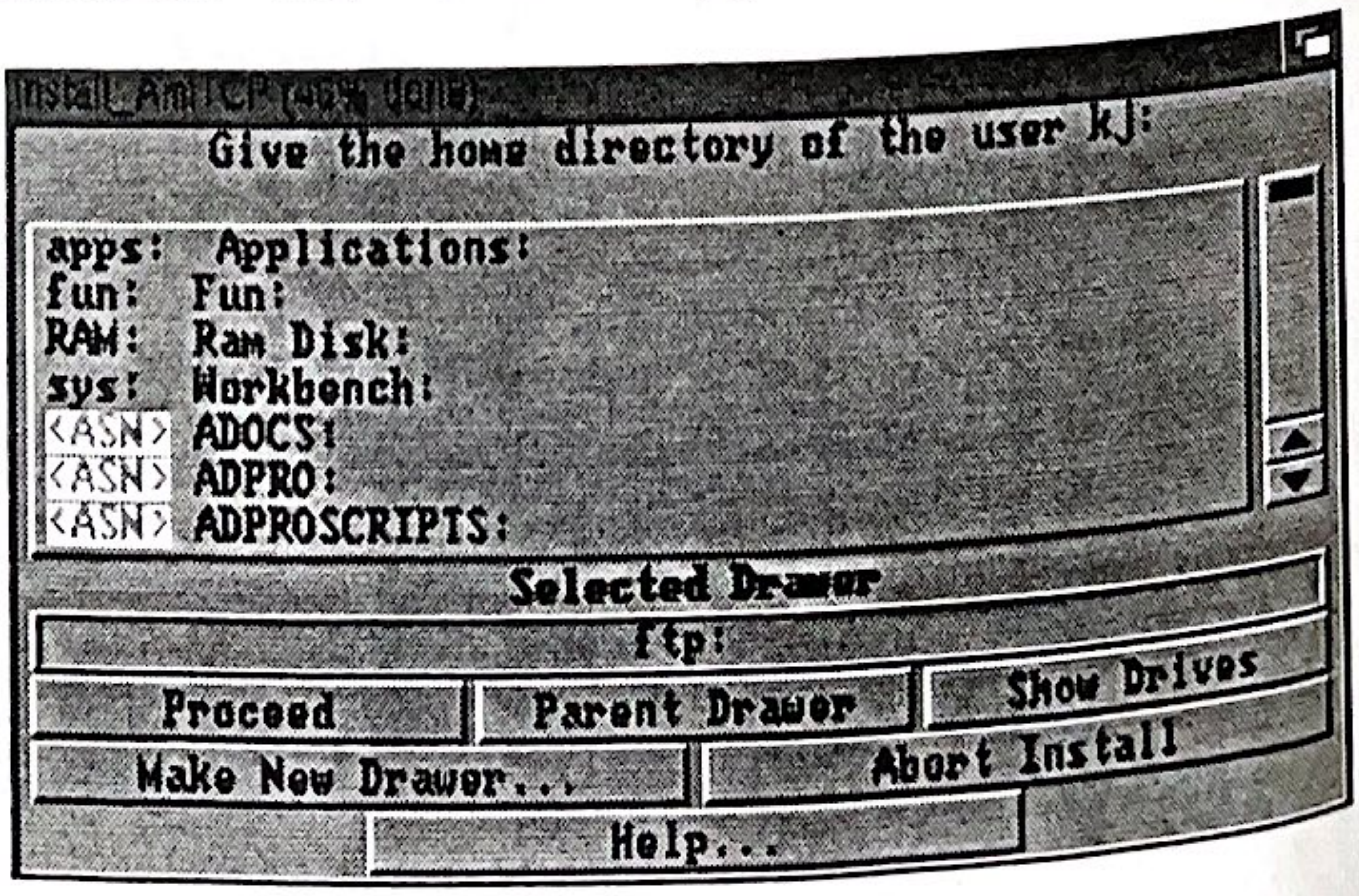
After login names, UIDs and GIDs, you have to enter your real name.



Enter the real name of the user KJ:

Karl Jeacle

You will need to chose a "home directory" on your system. This should just be a drawer/directory somewhere on your hard disk where you might keep local configuration files for Amiga Internet programs, and if you ever connect to your Amiga remotely, it will be the default directory you will find yourself in.



Install_AmiTCP (40% done)

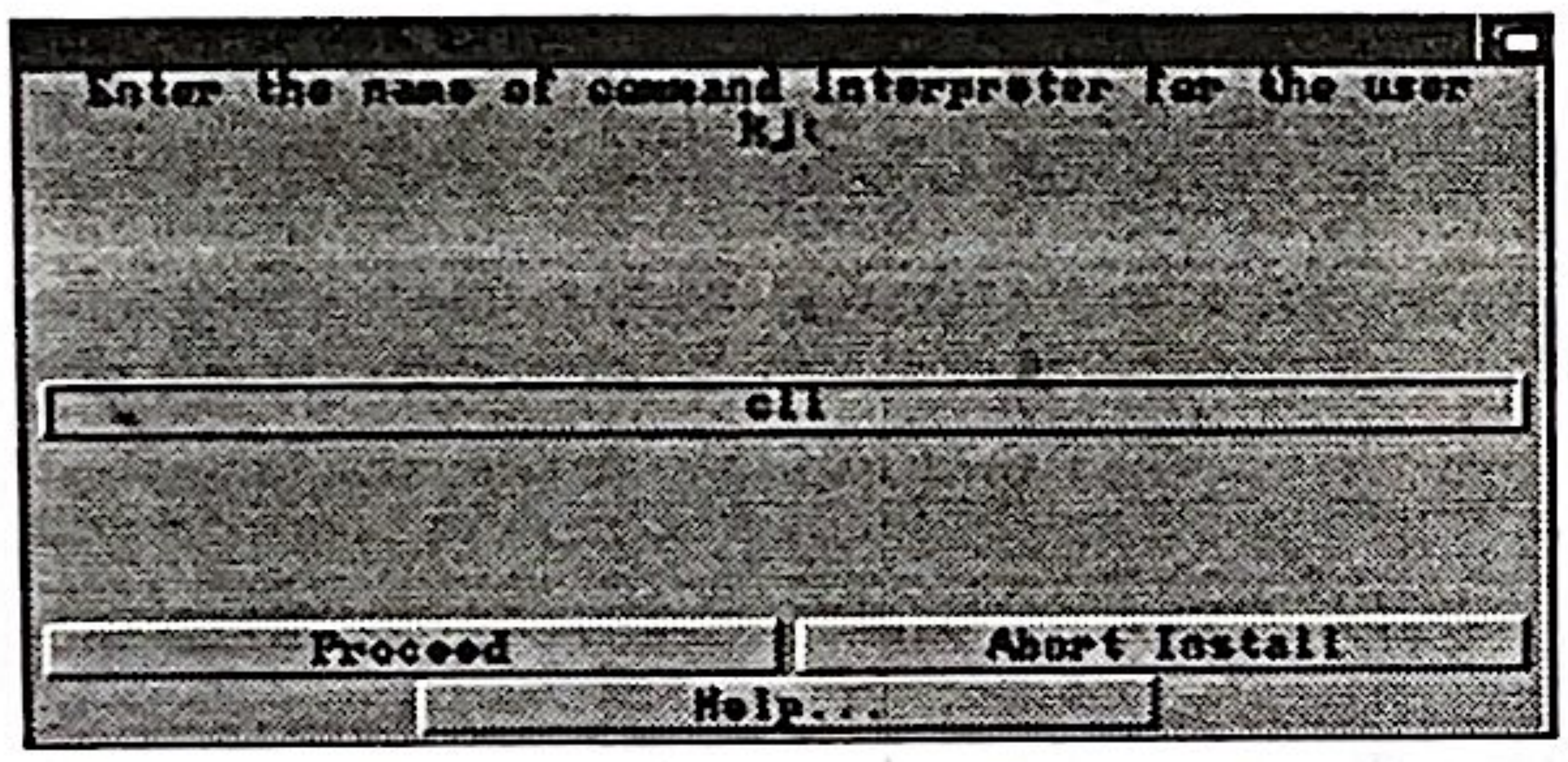
Give the home directory of the user kJ:

```
apps:  Applications:
fun:   Fun:
RAM:   Ram Disk:
sys:   Workbench:
<ASN>  ADOCS:
<ASN>  ADPRO:
<ASN>  ADPROSCRIPTS:
```

Selected Drawer

ftp:

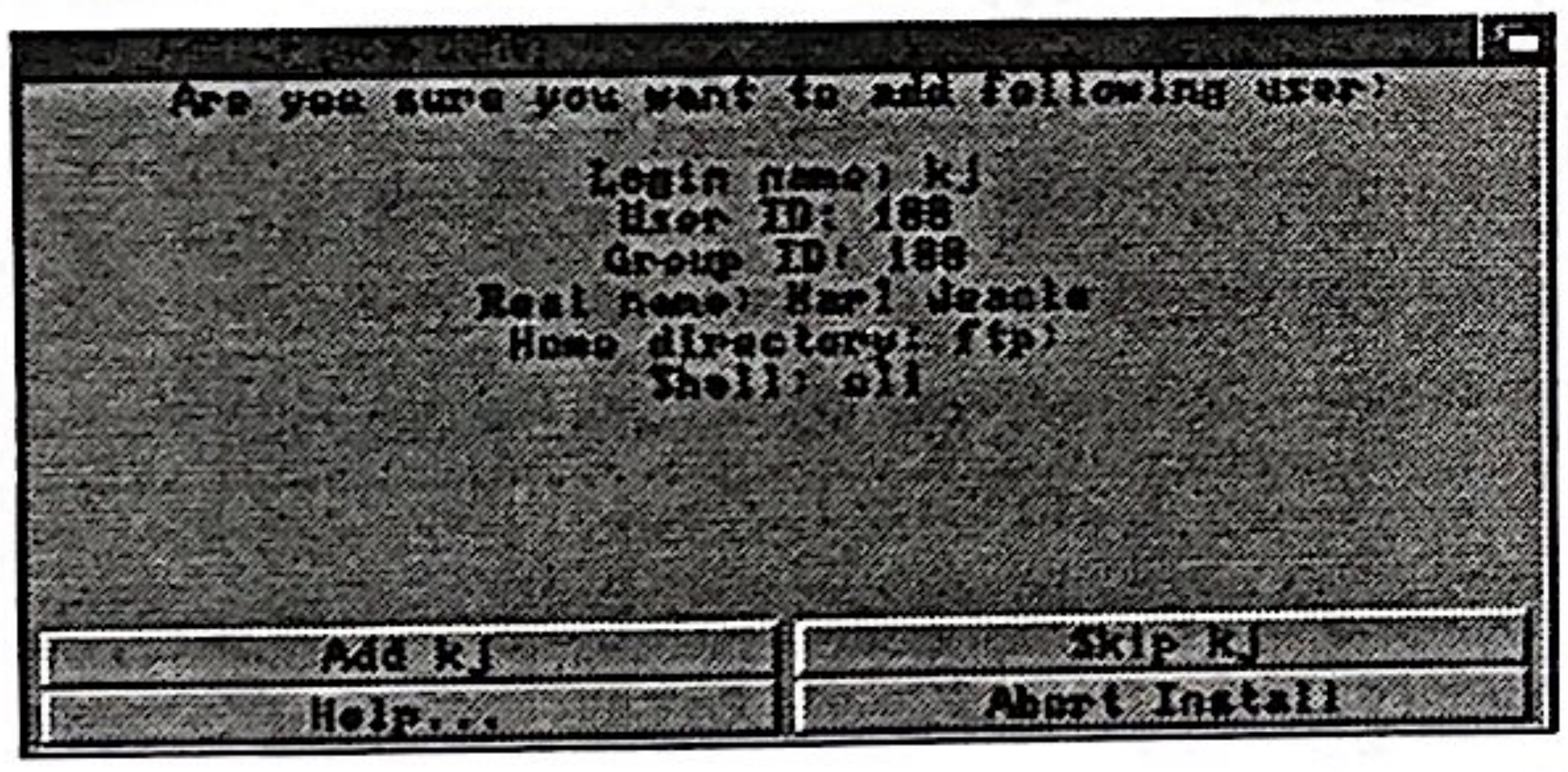
If this is the case, and you configure your Amiga to allow yourself to login across the Internet from another computer, you have to have set a "command interpreter" which will be run for you. The standard Amiga shell can be invoked with the `cli` command, so you should use this as the AmiTCP user command interpreter.



Enter the name of command interpreter for the user kj:

cli

When you have entered all the relevant details for your user account setup, the install script will ask you to confirm that everything has been entered correctly. Click "Add" if all is well.



Are you sure you want to add following user?

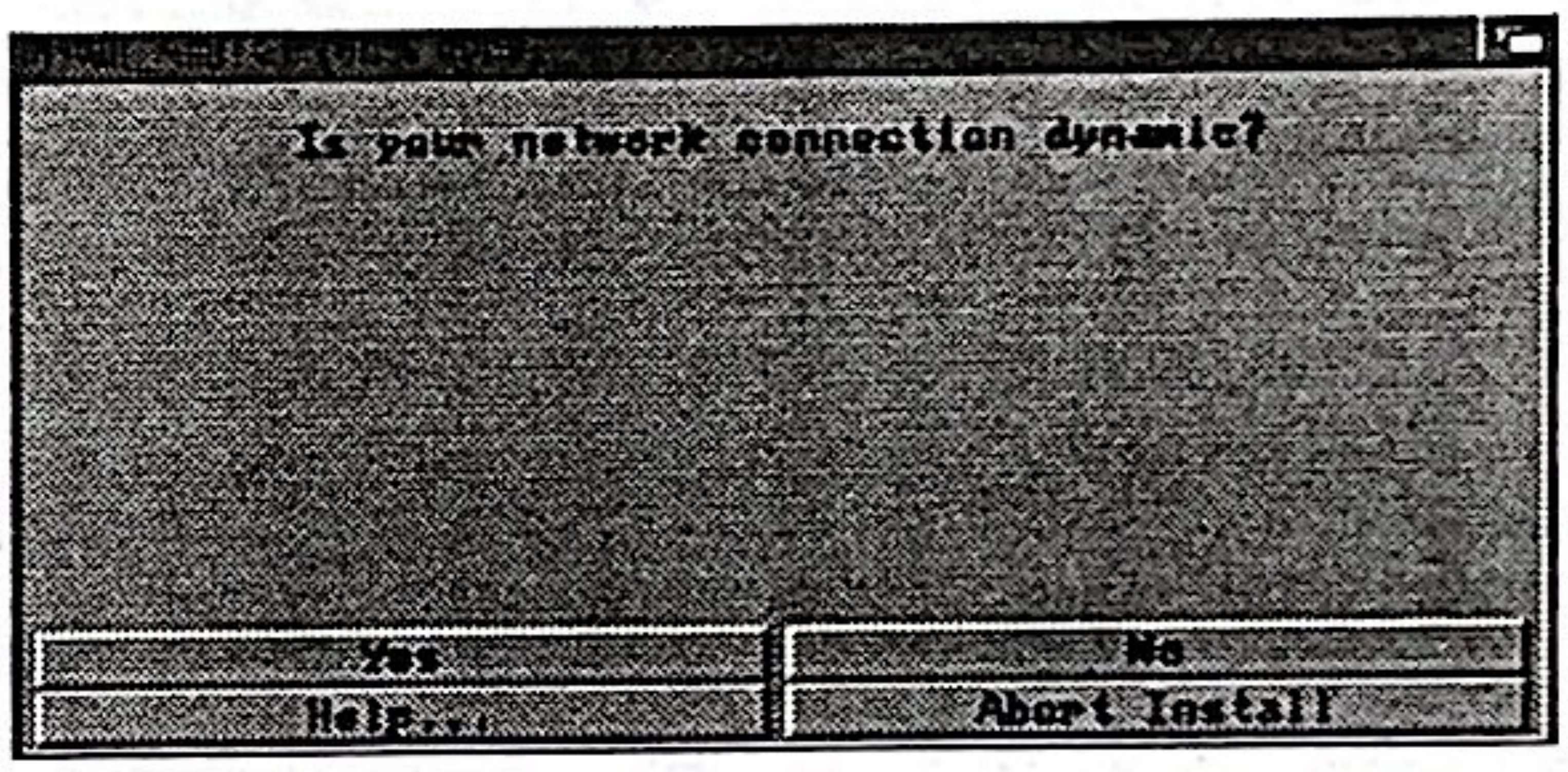
Login name: kj
User ID: 188
Group ID: 188
Real name: Karl Jeacle
Home directory: ftp:
Shell: cli

At this point, AmiTCP will create the user account, and to do this, it needs a password, so a new shell window will appear with the AmiTCP login program running, prompting you for a password.

Try to use numbers, symbols or uppercase characters in your password. You should make it as difficult to guess as possible. Don't make it too obscure, however, as you may have trouble remembering it yourself!

Don't think that the password is not important if you are the only user of your Amiga. When you are connected to the Internet, if you allow incoming Telnet or FTP sessions, your machine could be vulnerable to attack while you are online. Don't be paranoid about this - it's highly unlikely that your machine's security will be compromised, especially when you are a dialup user with a dynamically assigned IP address (more on this later), but just be careful, and pick a sensible password.

Having fully configured all the login user details, AmiTCP will attempt to configure any network interfaces you have attached. The first thing it needs to know is whether your network connection is static or dynamic.



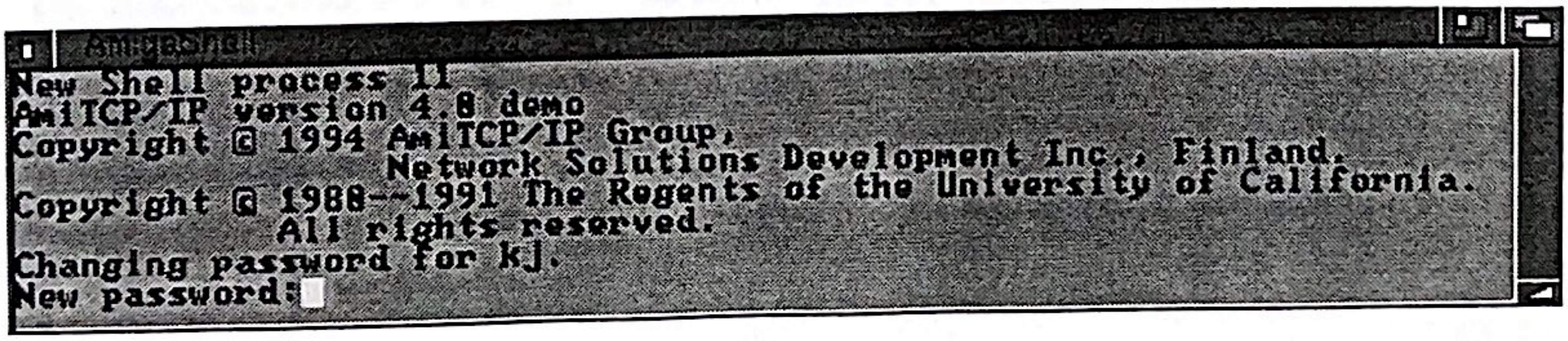
Is your network connection dynamic?

A static connection means that your Amiga will have a single IP address uniquely assigned to it. These days, for a number of reasons, it's quite unlikely that you will be using a static IP address unless you are connecting to a machine at work or have a particularly friendly ISP.

In most cases you will have a dynamic network connection. This means that each time you call your ISP, it will allocate you an IP address for your Amiga that will be yours for the duration of that call only. When you hangup, the IP address will be reused for someone else logging on.

So, unless your ISP has given you a specific IP address to use, you should click "Yes" - your network connection is dynamic.

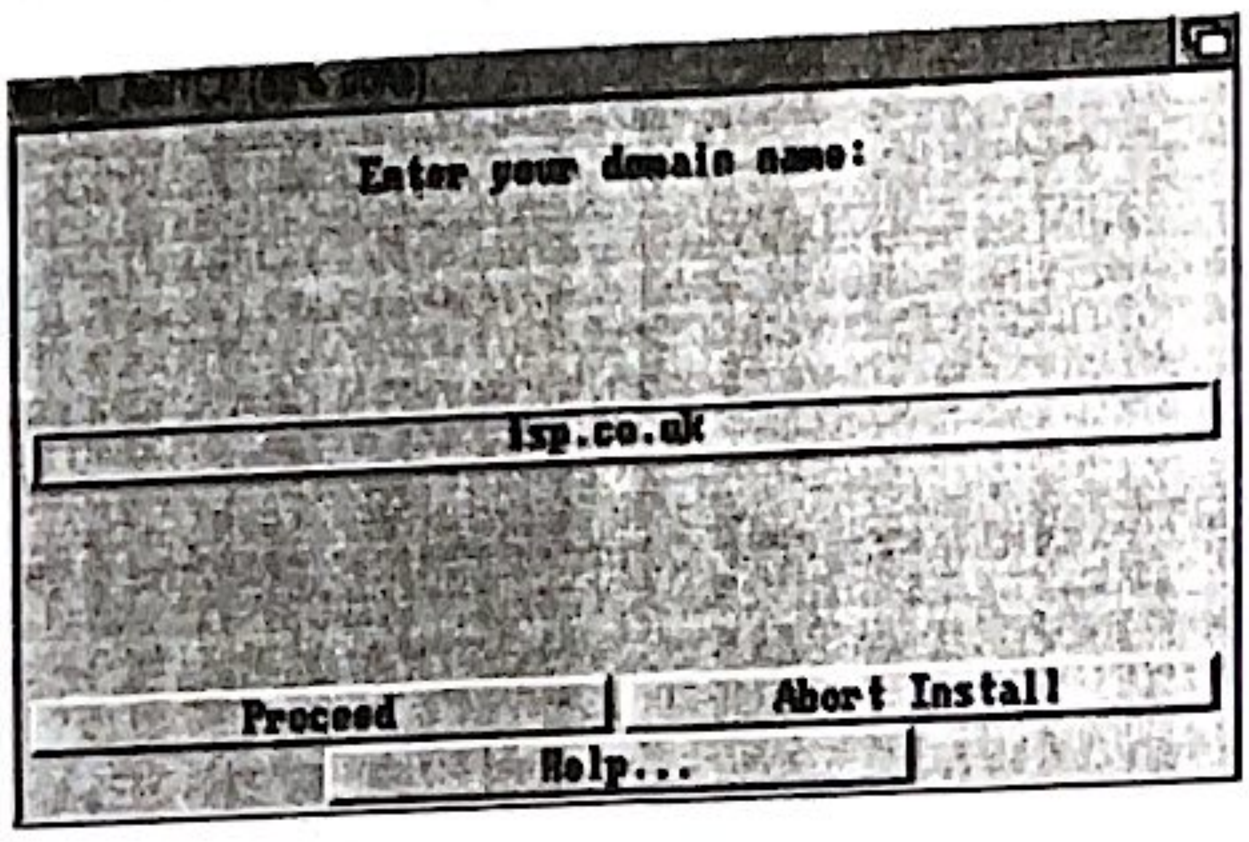
Next you'll have to enter your domain name, this will be something like "isp.co.uk" or if you are connecting to a university account,



```
New Shell process 11
AmiTCP/IP version 4.0 demo
Copyright © 1994 AmiTCP/IP Group,
                 Network Solutions Development Inc., Finland.
Copyright © 1988--1991 The Regents of the University of California.
             All rights reserved.
Changing password for kj.
New password:
```

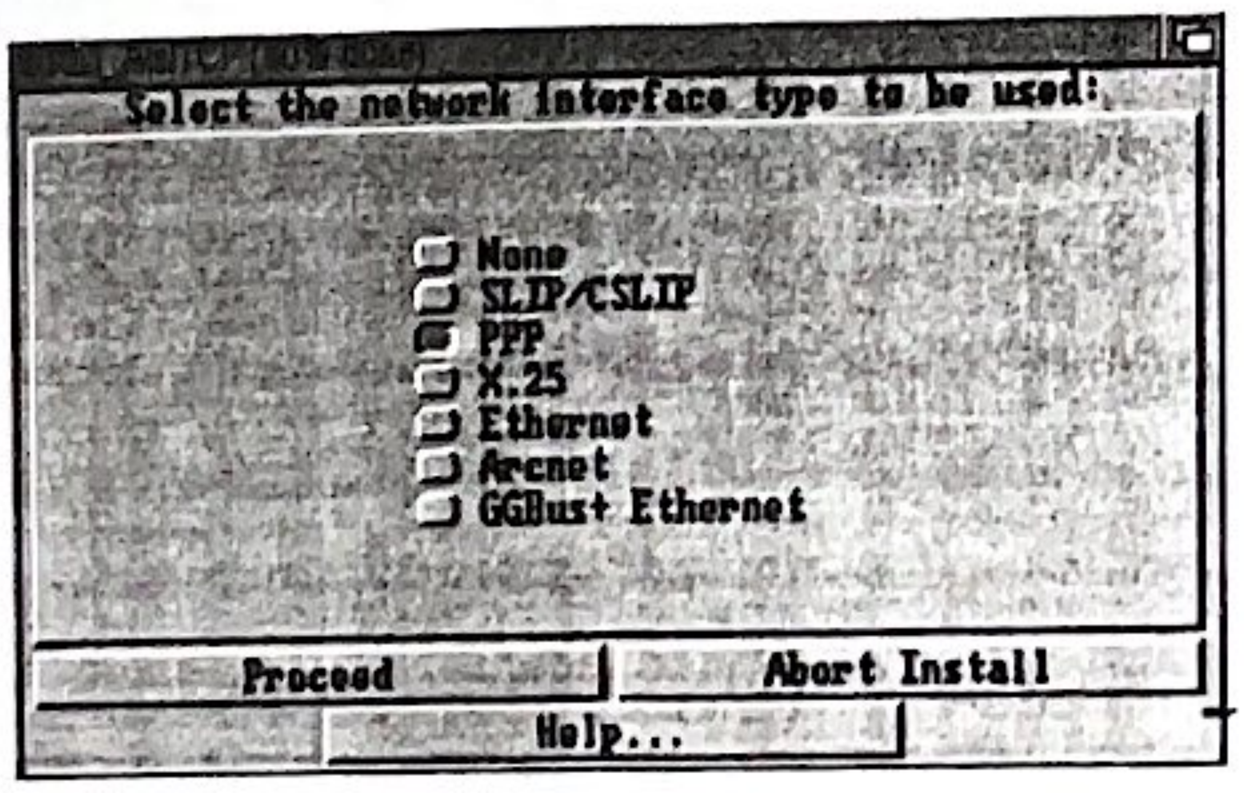
"blah.ac.uk". If you know what your email address will be, your domain name is probably everything after the "@" in your email address. For example, if your email address is "jbloggs@isp.co.uk", then your domain name is "isp.co.uk".

TCP/IP can run over a variety of different network types. It is possible to install Ethernet or Arcnet cards in a number of Amigas and network them together locally. However, if you are simply using a modem to connect to the Internet, then you need a piece of software under AmiTCP to talk to your modem. This is usually SLIP, CSLIP or PPP. The most popular these days is PPP using the aforementioned dynamic addressing. Click on whichever protocol your ISP has told you to use.

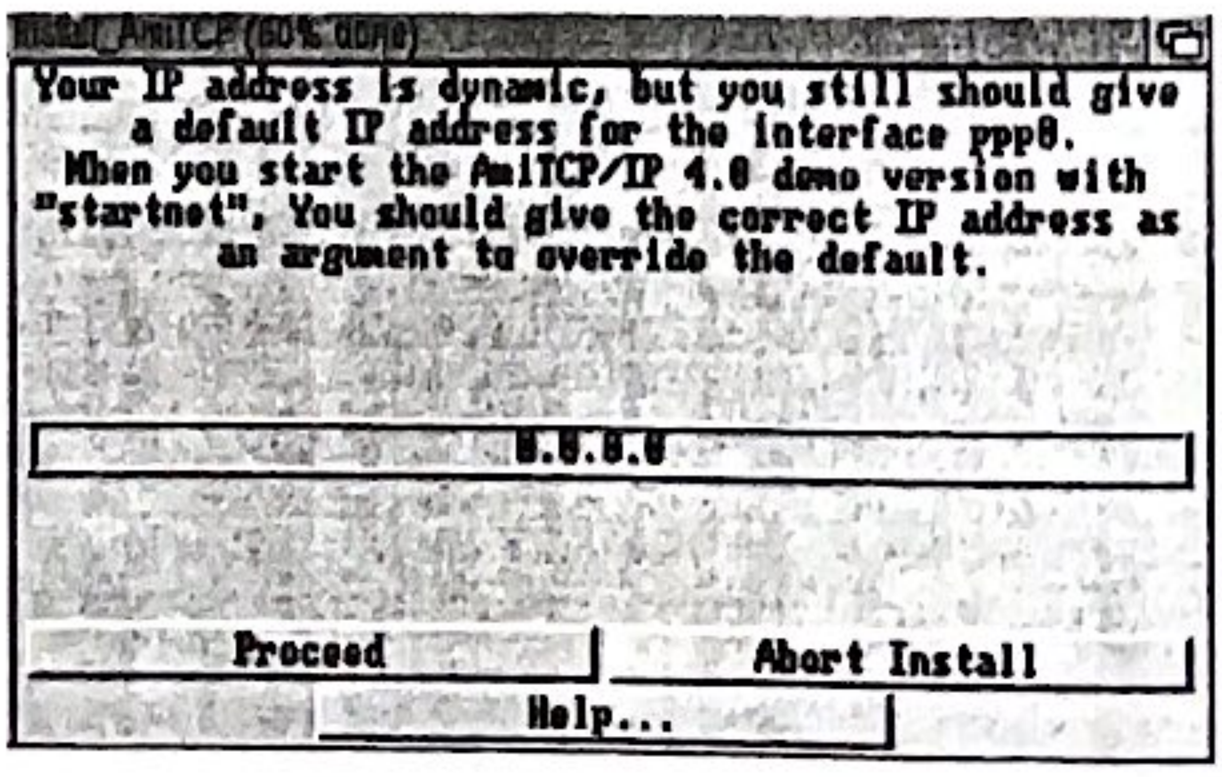

Enter your domain name:

isp.co.uk

In the likely event that you choose PPP as your network interface, AmiTCP will ask you to confirm that this is indeed that case, before going on to ask you your IP address. When using dynamic addressing, you can enter the address "0.0.0.0" for the ppp0 interface.


Select the network interface type to be used:

○ None
○ SLIP/CSLIP
● PPP
○ X.25
○ Ethernet
○ Arcnet
○ GGBus+ Ethernet


Your IP address is dynamic, but you still should give a default IP address for the interface ppp0.
When you start the AmiTCP/IP 4.0 demo version with "startnet", You should give the correct IP address as an argument to override the default.

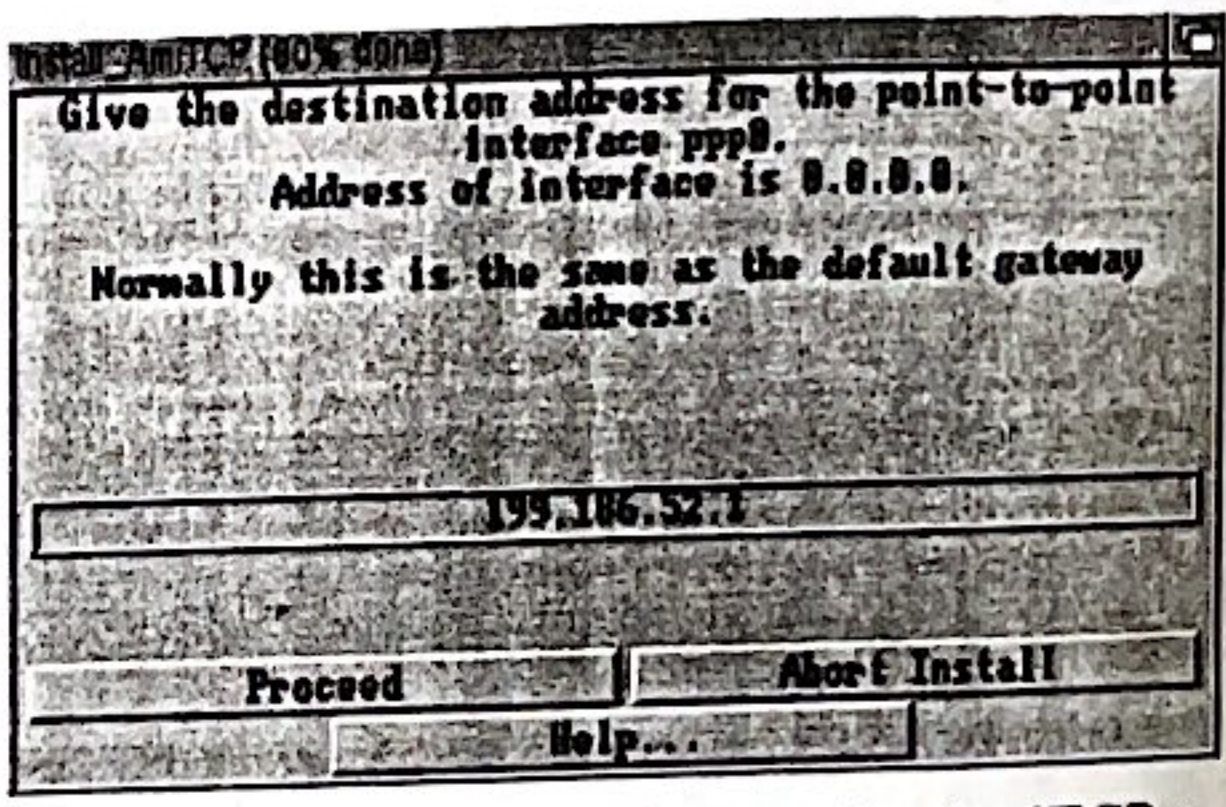
0.0.0.0

The computer at the other end of the modem will give you your IP address, so you can get away without knowing your own address, but in order to communicate with the remote machine, it is essential that you have its IP address. Only your ISP can tell you this.

As AmiTCP notes, this address is usually the same address as your ISP's default gateway, so use this address if its the only remote IP address that your ISP has given you.

If you are really stuck here, and your ISP has told you nothing, try using 0.0.0.0 again, and it's possible that the PPP protocol will figure out the relevant IP addresses when it starts up.

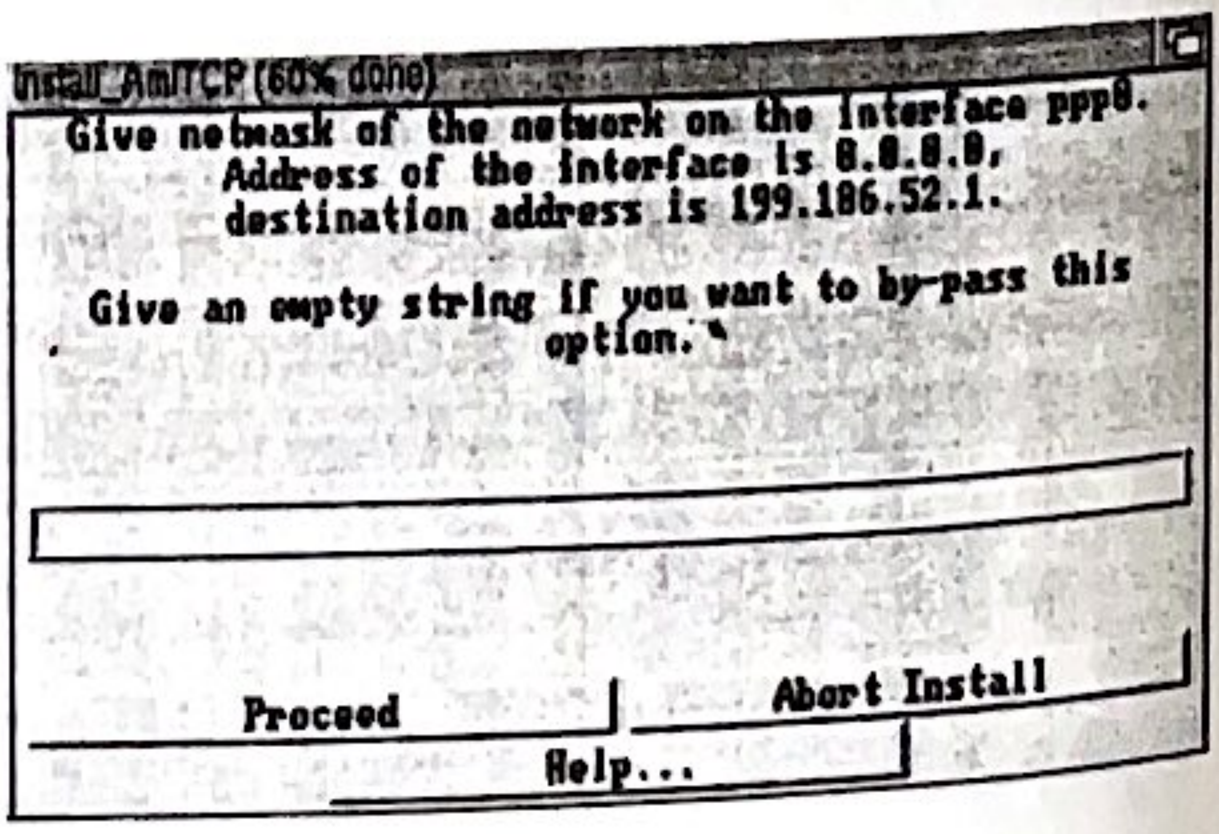
With every IP address, you must supply a netmask. It's usually quite easy for AmiTCP to figure out this address, so you can just leave this option blank. However, if for some reason, you have to enter a netmask, then check with your ISP, though 255.255.255.0 is a good bet.


Give the destination address for the point-to-point interface ppp0.
Address of interface is 0.0.0.0.

Normally this is the same as the default gateway address.

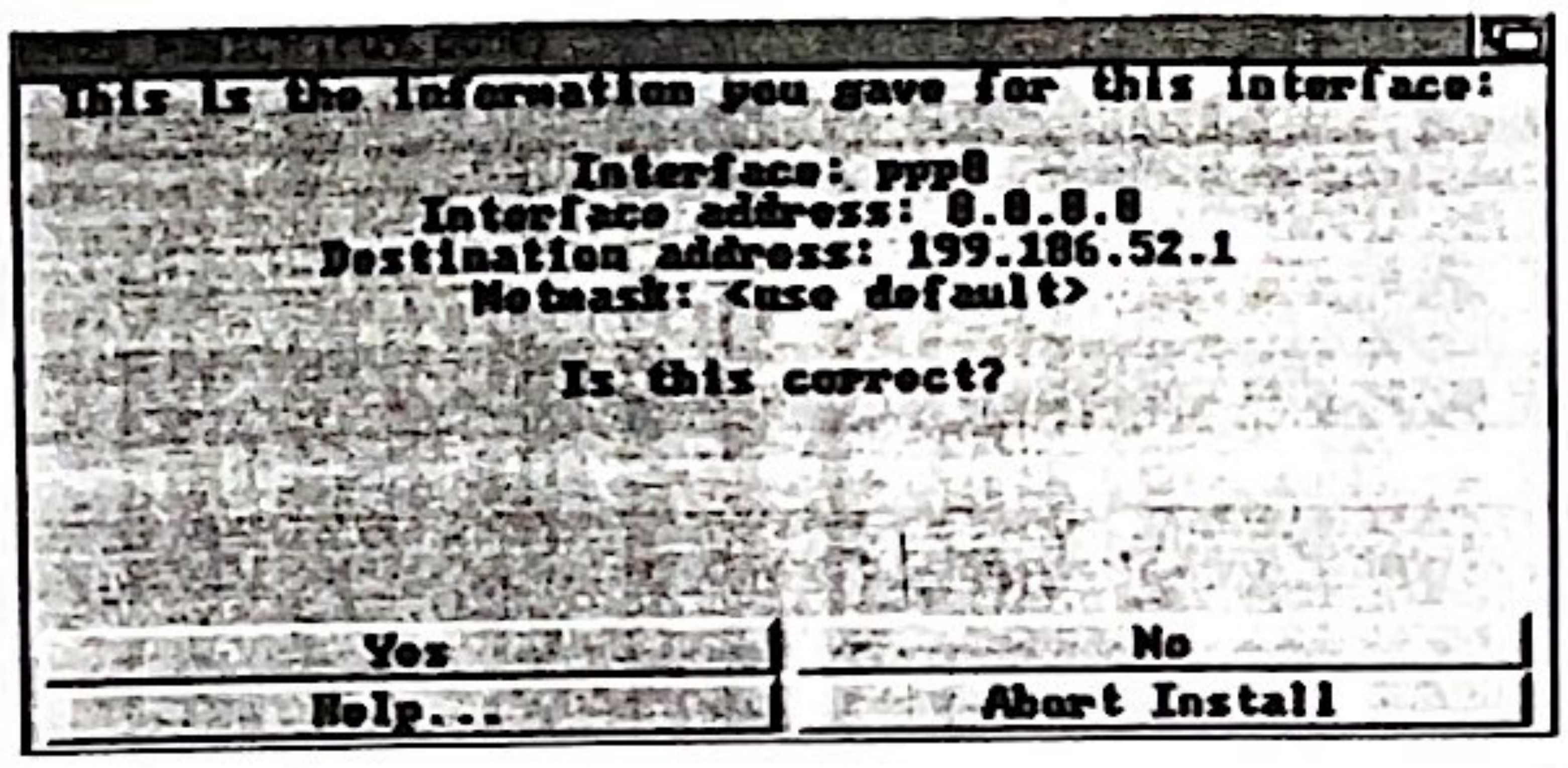
199.186.52.1

AmiTCP will now present a summary of your answers for this interface. Click "Yes" if you have entered everything correctly.


Give netmask of the network on the interface ppp0.
Address of the interface is 0.0.0.0,
destination address is 199.186.52.1.

Give an empty string if you want to by-pass this option.

The default gateway is the machine to which your Amiga will forward all Internet destined packets. Because you have a point-to-point link to your ISP, all of your IP packets must go to the machine at the other end of your modem link,



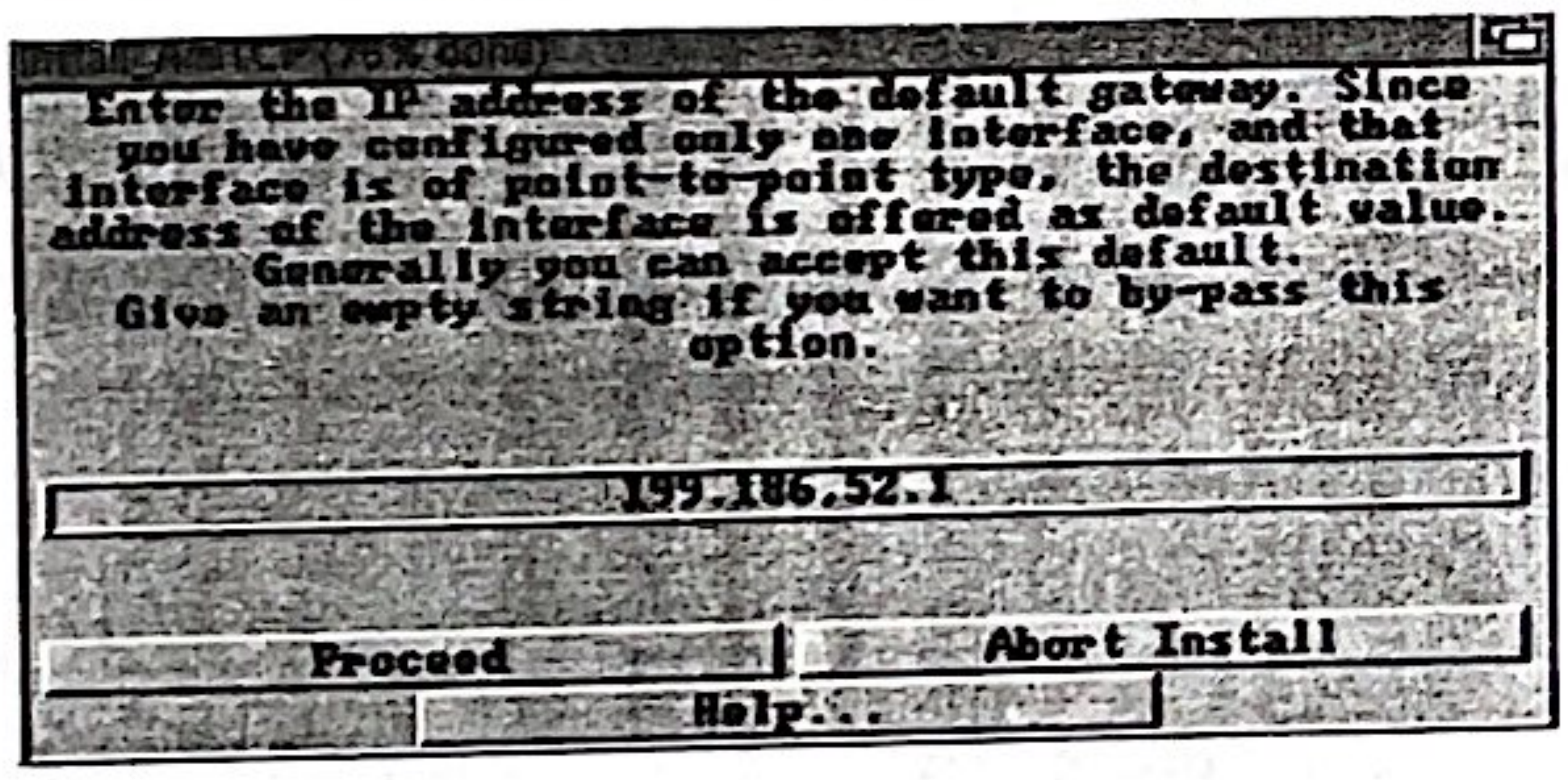
This is the information you gave for this interface:

Interface: ppp0
Interface address: 0.0.0.0
Destination address: 199.186.52.1
Netmask: <use default>

Is this correct?

so usually this remote machine is the default gateway. However, it is possible that the default gateway will be a machine somewhere else in your ISP's premises. In this case, your ISP will provide you with the two separate IP addresses you require: the remote PPP address, and the default gateway address. If they have only given you one address, you can assume that the machine at the other end of the line is also your default gateway.

The one other IP address that your ISP should have provided you with is that of its name server or DNS machine. Name servers translate normal english-like hostnames into their numeric IP equivalents. AmiTCP can still work without a DNS server, but you won't be able to make a lot of sense of anything without a DNS entry in your AmiTCP configuration files.

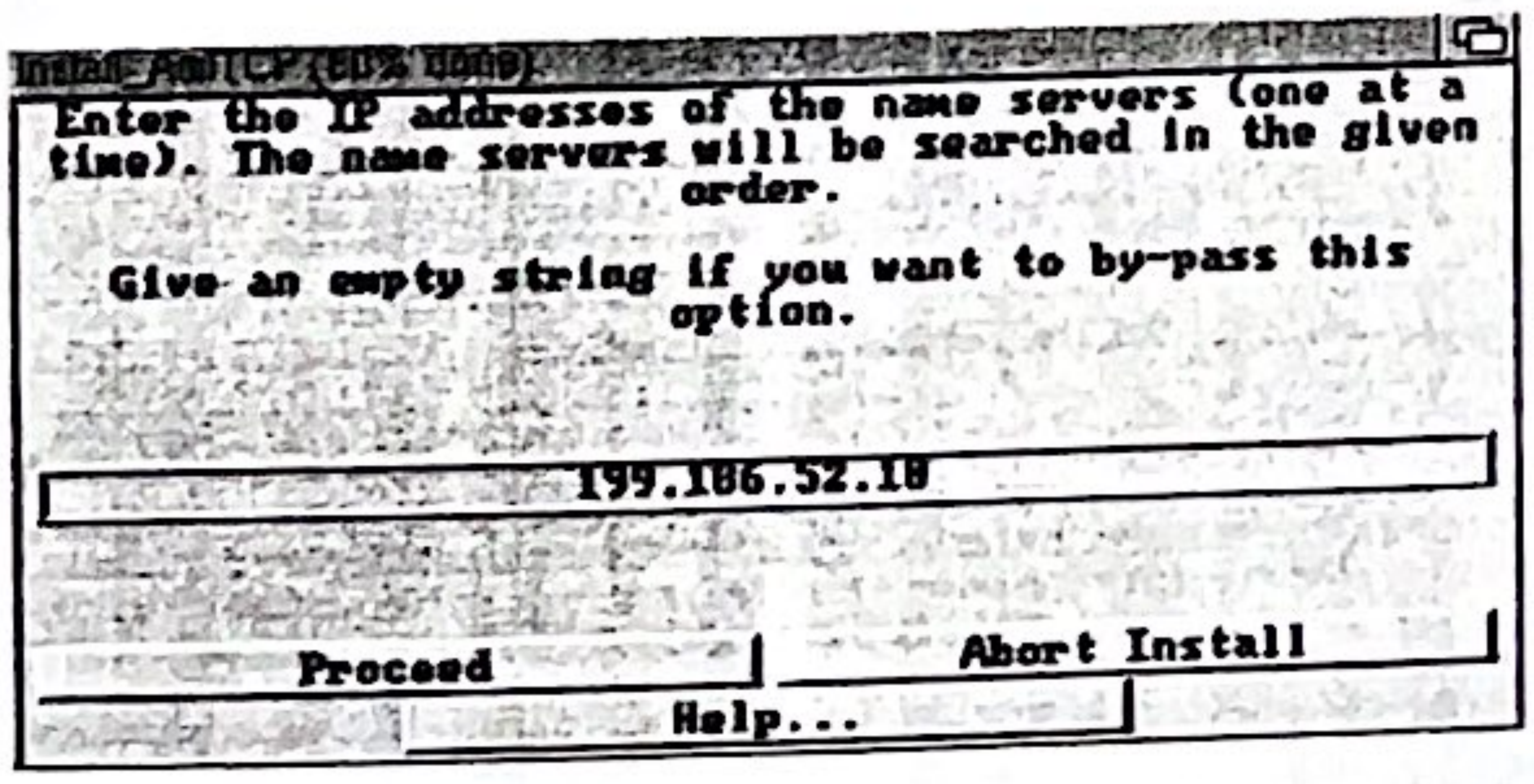


Enter the IP address of the default gateway. Since you have configured only one interface, and that interface is of point-to-point type, the destination address of the interface is offered as default value. Generally you can accept this default. Give an empty string if you want to by-pass this option.

199.186.52.1

You will be offered the chance to enter more than one DNS server address. If you have more than one, then by all means, enter it here.

If you are connected to multiple domains, it's possible that you might have to enter more than one DNS server, and you will also have to enter each of the domain names that these DNS servers correspond to.

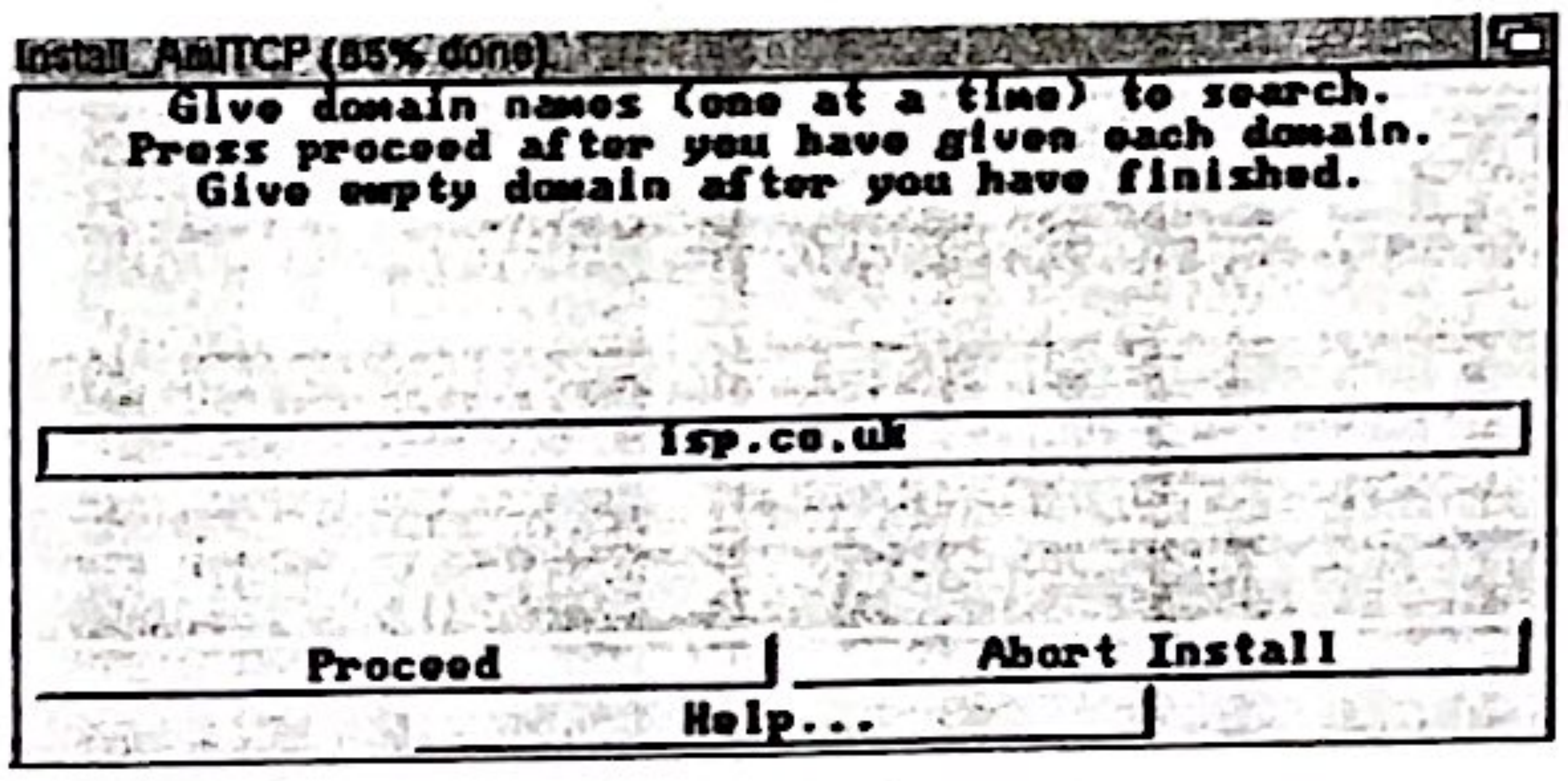


Enter the IP addresses of the name servers (one at a time). The name servers will be searched in the given order.

Give an empty string if you want to by-pass this option.

199.186.52.10

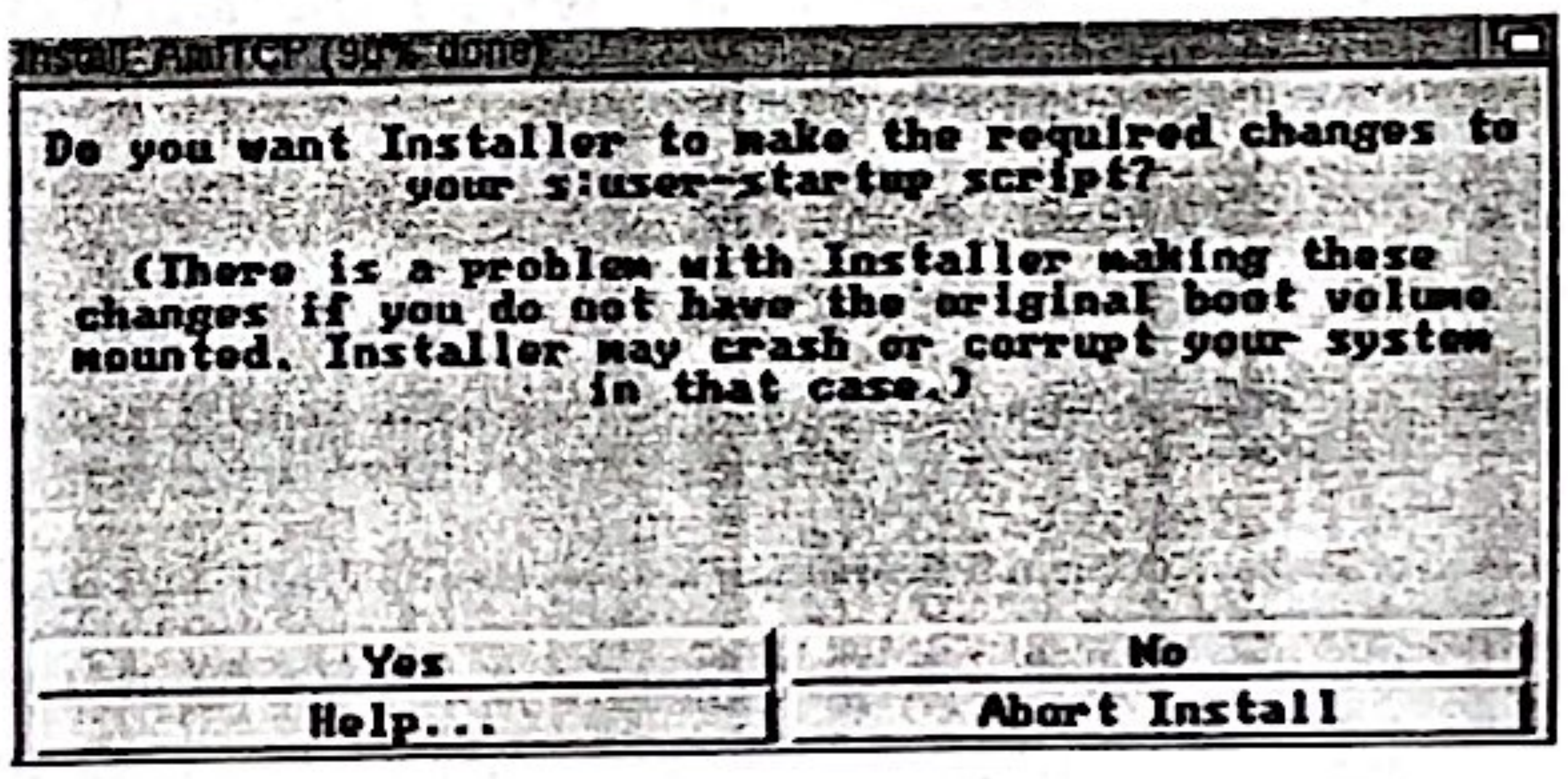
This is not likely to be the case with the average home Internet connection, so you can simply enter your single domain name and then leave the next one blank and click Proceed.



Give domain names (one at a time) to search. Press proceed after you have given each domain. Give empty domain after you have finished.

isp.co.uk

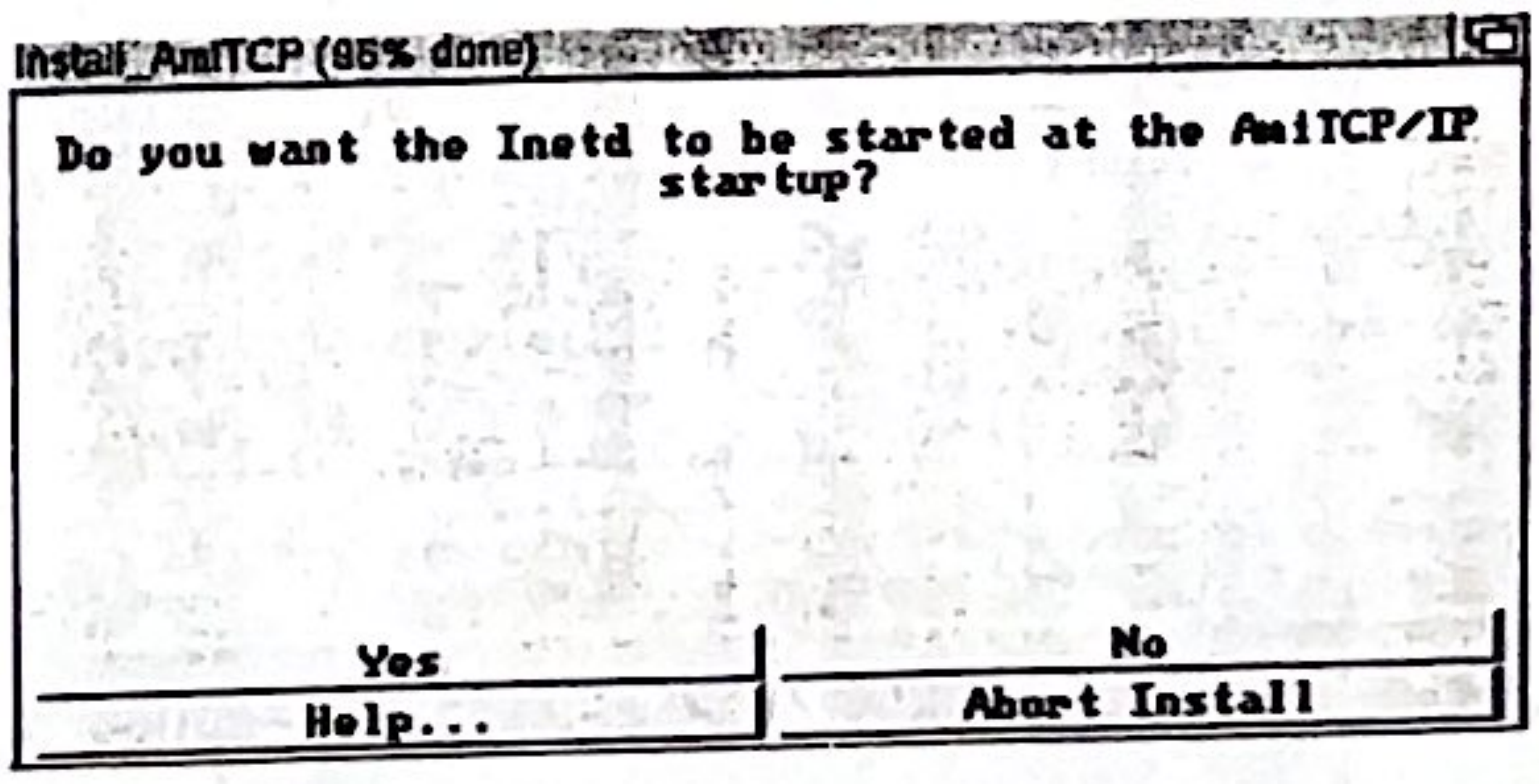
AmiTCP needs some AmigaDOS assign commands and path additions to be made before it can run, so the install program asks you if you want it to modify your startup scripts to do this automatically. Click Yes.



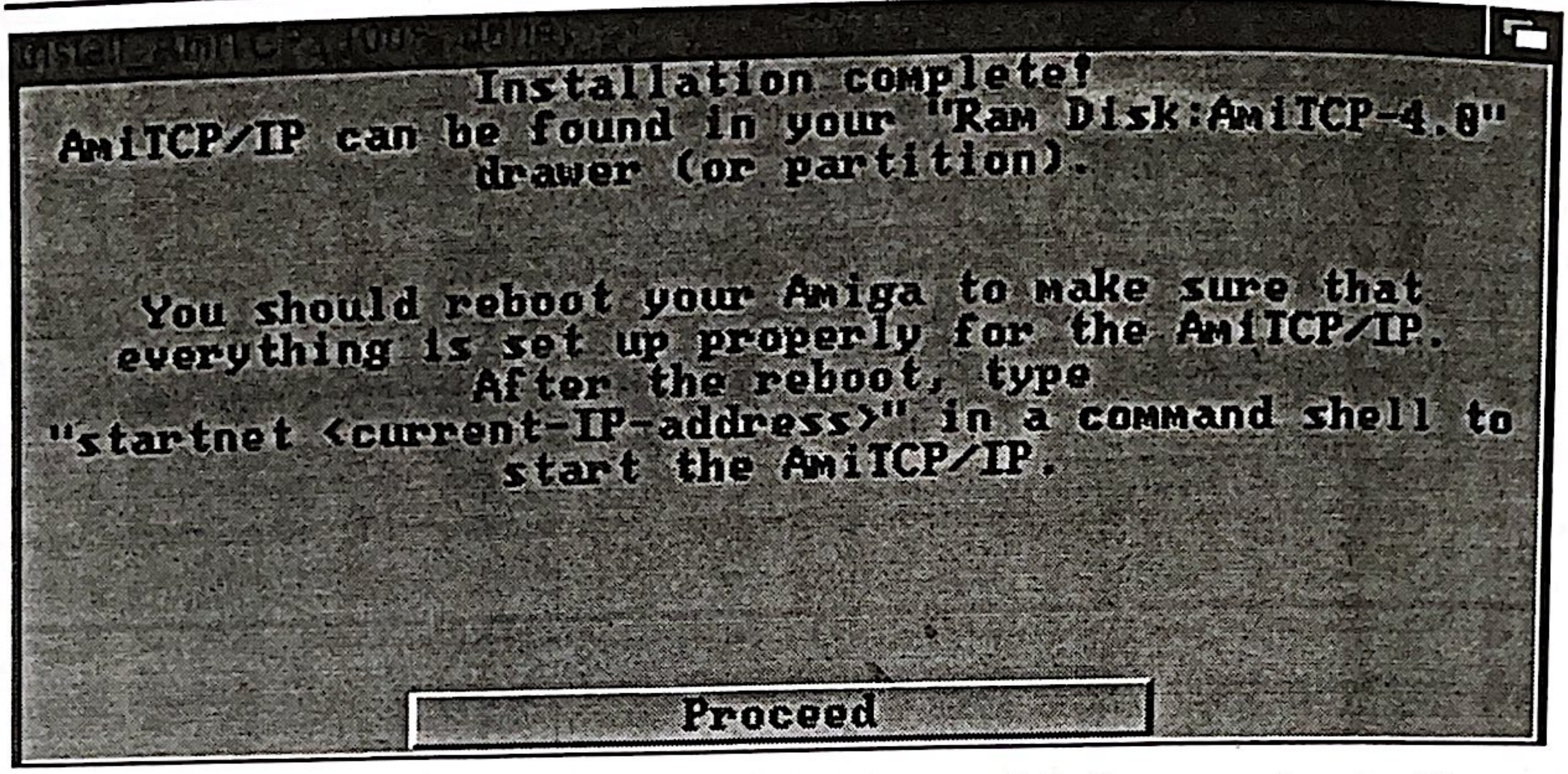
Do you want Installer to make the required changes to your s:user-startup script?

(There is a problem with Installer making these changes if you do not have the original boot volume mounted. Installer may crash or corrupt your system in that case.)

The Inetd program is a daemon program which sits running in the background of your Amiga waiting for incoming connections to your machine. If you want to set up FTP servers or Web servers or other advanced Internet services on your Amiga, you may as well have the Inetd program started every time you launch AmiTCP. However, as mentioned earlier, this is where the security risk can lie. I would recommend choosing "No" here, though it's pretty moot. You can



Do you want the Inetd to be started at the AmiTCP/IP startup?



```
Installation complete!
AmiTCP/IP can be found in your "Ram Disk:AmiTCP-4.0"
drawer (or partition).

You should reboot your Amiga to make sure that
everything is set up properly for the AmiTCP/IP.
After the reboot, type
"startnet <current-IP-address>" in a command shell to
start the AmiTCP/IP.
```

add Inetd to your startup scripts at a later date, if you like.

That's it! No more questions. AmiTCP is now installed on your system. As the requester says, you should reboot your Amiga for all the changes to take effect.

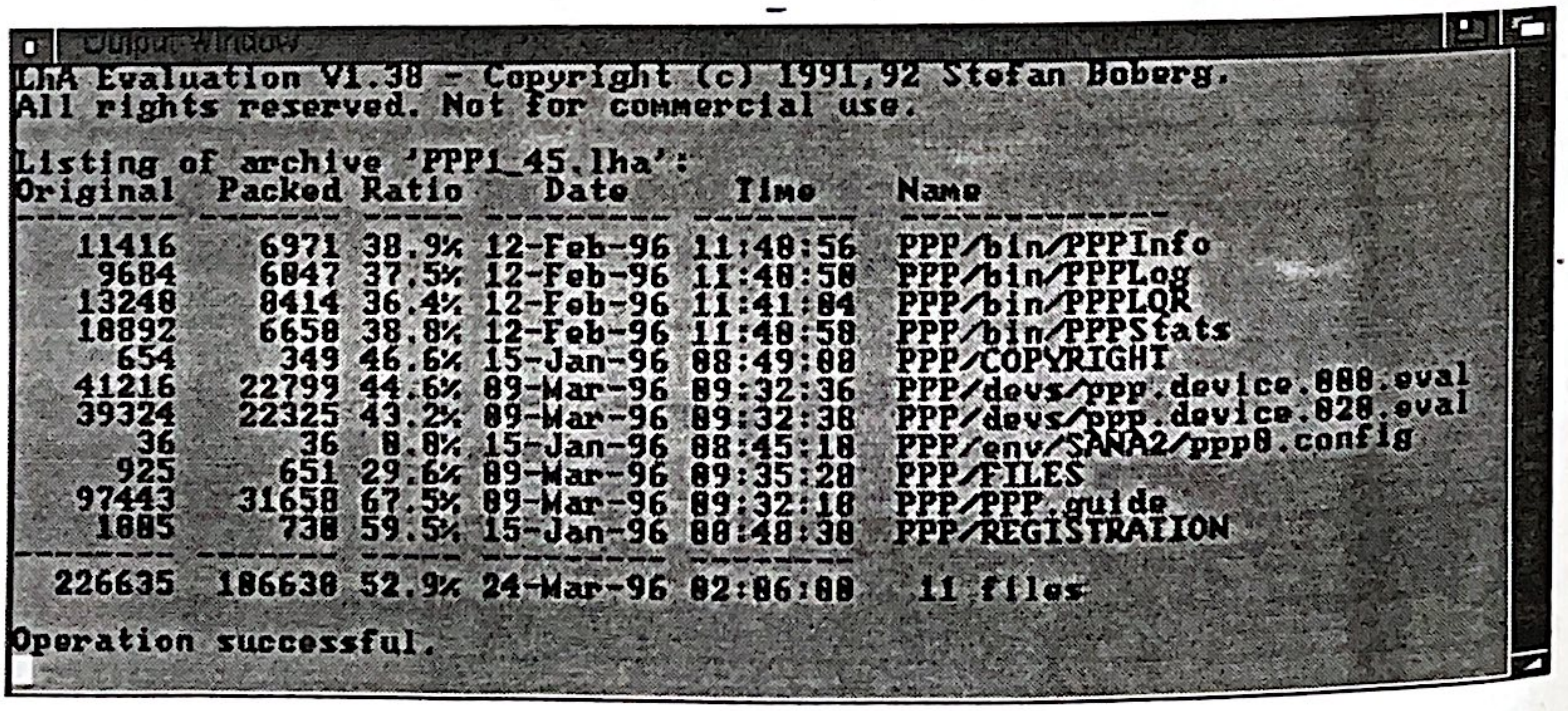
Installing PPP: step-by-step

AmiTCP requires a SANA-II driver to be installed underneath it to talk to a network device. Your network hardware is your modem, and your SANA-II driver can be something called SLIP, CSLIP or PPP.

SLIP means Serial Line Internet Protocol. It was one of the first ways of getting IP to run over a serial line, the same kind of line your modem uses. CSLIP (Compressed SLIP) came next and improved on the speed of SLIP by compressing some of the IP packet headers being sent up and down the line. Both SLIP and CSLIP are commonly used today.

The most recent protocol to be used to get IP running over serial lines is the Point-to-Point Protocol. PPP is smarter than SLIP and CSLIP in a number of ways, but really all you need to worry about is that PPP should be installed along with AmiTCP in order to get your Amiga talking to your modem and hence your ISP.

Holger Kruse has written a shareware version of PPP for the Amiga. It is available on Aminet as comm/net/PPP1_45.lha. When you



```
LhA Evaluation V1.38 - Copyright (c) 1991,92 Stefan Boberg.
All rights reserved. Not for commercial use.

Listing of archive 'PPP1_45.lha':
Original  Packed Ratio    Date      Time     Name
-------- ------- ----- --------- --------   -------------
   11416    6971 38.9% 12-Feb-96 11:40:56   PPP/bin/PPPInfo
    9684    6047 37.5% 12-Feb-96 11:40:50   PPP/bin/PPPLog
   13248    8414 36.4% 12-Feb-96 11:41:04   PPP/bin/PPPLQR
   10892    6658 38.8% 12-Feb-96 11:40:58   PPP/bin/PPPStats
     654     349 46.6% 15-Jan-96 08:49:00   PPP/COPYRIGHT
   41216   22799 44.6% 09-Mar-96 09:32:36   PPP/devs/ppp.device.000.eval
   39324   22325 43.2% 09-Mar-96 09:32:38   PPP/devs/ppp.device.020.eval
      36      36  0.0% 15-Jan-96 08:45:10   PPP/env/SANA2/ppp0.config
     925     651 29.6% 09-Mar-96 09:35:20   PPP/FILES
   97443   31658 67.5% 09-Mar-96 09:32:10   PPP/PPP.guide
    1805     730 59.5% 15-Jan-96 08:40:30   PPP/REGISTRATION
-------- ------- ----- --------- --------
  226635  106638 52.9% 24-Mar-96 02:06:00    11 files

Operation successful.
```

unpack the archive you will find the following files:

The files in the "bin" directory are just used for getting information on the PPP link while it is running - don't worry about these. The important files are in "devs" and "env". There are two copies of the ppp.device file which AmiTCP will try to open when it starts up. One for all Amigas, and one for Amigas with at least a 68020 processor. You only need ONE of these files. The ppp0.config file is where your PPP settings will be stored.

Finally the PPP.guide file has a very comprehensive online AmigaGuide help file which explains in detail how to install PPP. Let's go through the steps involved in installing PPP once the AmiTCP demo is on your system.

PPP Installation for AmiTCP 4.0 demo

First, make sure that you followed all the instructions given above when installing AmiTCP i.e. you should have chosen PPP as your network interface and entered 0.0.0.0 as your IP address if using a dynamic connection.

To install PPP itself, you must choose one of the files"ppp.device.000.eval" and "ppp.device.020.eval" and copy it to your devs:networks directory, renaming it to be simply "ppp:device". If you have an A1200 or A4000 you can use the 020 version.

If you want to use the PPP status programs, copy the files in the PPP "bin" directory into the "AmiTCP:bin" directory. This is where all the AmiTCP binaries are held, so it's a pretty good choice for where to keep the PPP files.

Next create a configuration file for PPP. It should be a text file containing a single line. The Configuration section of PPP.guide goes through all the options possible, but a good start is:

```
serial.device 0 19200 0.0.0.0
7WIRE          ATH          CD
DIALSCRIPT=amitcp:chatscript
```

Change 19200 to be the highest value you can run your serial port at. This was discussed a few chapters back. 0.0.0.0 is your IP address. 7WIRE means that your modem/cable supports hardware handshaking and ATH will ensure that your modem hangs up the phone line when you stop AmiTCP running.

CD means that PPP will only dial your ISP if the modem is not already online. This is useful after a crash or reset, where the modem is still connected, but you have to restart AmiTCP/PPP. The DIALSCRIPT option points to a file which contains commands which will automate the login process to your ISP. We'll look at this shortly.

Save this single line file to both envarc:sana2/ppp0.config and env:sana2/ppp0.config.

Now you must modify the AmiTCP "startnet" and "stopnet" scripts to use PPP.

For AmiTCP:bin/startnet, you should:

Delete the first few lines that start with ".key",".bra",".ket",".def".

Add the line "online devs:networks/ppp.device 0" at the beginning of the file.

Change the line starting with "AmiTCP:bin/ifconfig ppp0 ..." to

AmiTCP:bin/ifconfig ppp0 $ppp0iplocal $ppp0ipremote

Change the line starting with "AmiTCP:bin/route add ..." to

```
AmiTCP:bin/route add
    $ppp0iplocal localhost
```

After that line, add the line:

```
AmiTCP:bin/route add default
$ppp0ipremote
```

For AmiTCP:bin/stopnet, you should:

Add the following line to the end of the file:

offline ppp.device 0

Finally, you must insert the line

ppp0 DEV=DEVS:networks/ppp.device UNIT=0 IPTYPE=33 NOARP P2P

somewhere in the file AmiTCP:db/interfaces.

Dialscripts

If you want PPP to automatically make a phone call to your ISP every time you run the AmiTCP "startnet" command, make sure you have the "DIALSCRIPT=amitcp:chatscript" option in your ppp0.config file as shown above.

PPP has a built-in dialer which can be

configured to automatically make a phone call, type in your username, password, wait for your ISP to respond and then start up PPP itself. To use this feature you should carefully read the "Dialing" section in the PPP manual, but to get you going, let's create a simple chatscript.

Use your favourite text editor again to create the file amitcp:chatscript.

This file should look something like:

```
ECHO ON
TIMEOUT 3000
SEND "ATZ"
WAIT "OK"
SEND "ATDT123456"
WAIT "CONNECT"
WAIT "ogin"
SEND "kj"
WAIT "assword"
SEND "secret"
WAIT "PPP"
```

This chatscript tells PPP to echo what's happening to a console window, and to allow 60 seconds (1 second = 50 ticks) for a connection to be made. After these first two lines, there is a sequence of SEND and WAIT commands. Initially, we send "ATZ" to our modem, which should reset it. We wait for an "OK" back from the modem.

Next we dial our ISP's phone number, 123456 in this example. We wait for the phone call to be made and for the modems to handshake. If a connection is established between our modem and the ISP modem, our modem will return "CONNECT".

This is where things start to vary greatly from ISP to ISP. In our example, we are instantly presented with "login:" and "password:" prompts to which we enter our username "kj" and password "secret" respectively. Finally we wait for our ISP to say something like "Okay, PPP is ready..." and our last line will catch the PPP in this message and tell AmiTCP to start up.

Your ISP will do something very similar to this, but it will probably have a slightly different login process. For example, it might ask you for a "Username:" and not a "login:". Or after you enter your password, it might require you to send a command such as "cslip" or "ppp" to start whatever type of connection you require.

If your ISP has not told you exactly what the login process is, you can use a basic terminal program such as NComm to dial your ISP directly and log in manually. By noting everything that your ISP sends down the line, and the order in which you must answer login questions, you should have all the information necessary to create your own custom chatscript.

Diary Dates

August 18

Eddy's Amiga laptop, Kevin's flying 060 card and much more.

September 15

Last meeting of the CUGI year!

October 20

CUGI's AGM. Be sure to turn up and discuss CUGI's future.

Amiga Technologies Update

by Eddy Carroll

SINCE the last newsletter, things have not been quiet in the world of Amiga! I'll do my best to summarise the most interesting events, though there is simply too much to cover in detail.

As many of you have heard by now, Amiga Technologies has been officially sold off by Escom, who had been experiencing financial difficulties and were no longer able to support the Amiga side of their business. Escom continues to sell Commodore-branded hardware (such as speakers and MPEG cards) in their retail outlets, which tends to confirm that their main interest all along was in the Commodore brandname, rather than the Amiga technology.

The news of the sale broke on April 11, with the following press release:

'VISCORP MOVES TO ACQUIRE LEADING TECHNOLOGY COMPANY'

Letter of Understanding Signed by Escom AG, Amiga Technologies and VISCorp

Chicago, IL, April 11,1996 — Visual Information Services Corp. (Nasdaq: VICP, Bulletin Board), a developer of Interactive TV (ITV) set-top boxes to enhance television use and viewing by providing Internet access and electronic communications functions, announced that it has a binding letter of understanding to acquire the assets of Amiga Technologies from Escom AG.

"We believe the Amiga television interface technology is clearly superior to anything that now exists for ITV boxes," said William Buck, VISCorp's chief executive officer. "Earlier this year, we licensed this technology for our second-generation prototype box. The proposed acquisition of Amiga would enable us to fully apply the proprietary technologies, patents and copyrights that are vital to the appearance, user appeal and functionality of our product."

The proposed acquisition would include the intellectual property of the former Commodore Business Machines, except Commodore trademarks. Terms were not disclosed. The pending acquisition would be subject to the approval of both boards of directors.

Mr. Buck stated: "Aiding our time to market, the proposed acquisition of Amiga would provide us with the installed base of our primary target market for Internet-supported software program distribution, which may ultimately lead to a new type of television network. This intended acquisition is part of VISCorp's strategy to build market leadership in the fast-growing field of ITV."

Mr. Buck explained that the proposed acquisition would give VISCorp ownership of Amiga intellectual properties, including several that are currently used in its set-top Electronic Device (ED), as well as control over the supply of chip sets used in ED, Amiga inventories, and access to the company's sales and distribution channels.

If the acquisition is completed, noted Mr. Buck, VISCorp anticipates continued sales and support of popular Amiga computer models. Commenting that the primary objective of the proposed acquisition is to give VISCorp full access to the Amiga/Commodore technology to support development of its ITV device, Mr. Buck said: "Our TV set-top interactive boxes would give home users capabilities such as telephone reception and dial-up, facsimile, pay-per-view options, electronic mail, access to online services, including the Internet, and more."

VISCorp — The Phoenix Strategy

So, who are VISCorp? Their web site at http://www.vistv.com/ has detailed information, but in essence, they are one of several US companies involved in the development of so-called set-top boxes, designed to provide interactive front ends to home users' TV sets.

Among VISCorp's key employees are several former Commodore employees who played key roles in the development of the original Amiga. Most notable among them is Carl Sassenrath, who developed Exec, the multitasking kernel at the heart of every Amiga, as well as the realtime video support under CDTV. These people can be assumed to have a good sense of the original Amiga spirit which was tragically allowed to die by Commodore's management.

A week after the initial announcement, David Rosen (a vice-president of VISCorp) issued a second press release stating VISCorp's intentions towards the Amiga. This noted that VISCorp had been in possession of a license to the Amiga OS and chip sets for some time, and were actively developing a family of TV-based products based on these.

Why did VISCorp decide to go the whole hog and buy the Amiga? In Rosen's own words:

"Our intent to purchase the Amiga comes out of (i) an appreciation of the core technology and its importance to VISCorp's long-term business development and (ii) a belief that the Amiga can—like the Phoenix—rise from the ashes and become a profitable technology for the future."

A non-official statement was also made on CompuServe by Carl Sassenrath (currently Director of Software at VISCorp):

"What I have been telling people is not to worry. We are all Amiga lovers here. Unlike ESCOM or even Commodore, VISCorp does not have a single IBM PC person in the development group. We are all solid Amigans from the very beginning. Personally speaking, I don't plan on killing the Amiga. In fact, I'm hoping to build one killer Amiga!"

Encouraging words! As you might expect, reaction on the Internet has been mixed, split between the optimists who are certain that *this* time, the Amiga will surely have the success it deserves, and the pessimists who see VISCorp as a company that will milk the Amiga hardware and OS for their own needs, without putting resources into developing next generation desktop Amigas.

Although VISCorp have stated that they do intend to develop desktop systems, as well as their set-top boxes, it is reasonable to assume that this will not be their main priority. Into this breach steps Phase 5 Digital Products, the well-known German developer of Amiga accelerator cards.

Phase5 - A new high-end Amiga?

In May, Phase 5 announced that they plan to release an Amiga-compatible system during the first six months of 1997. By "compatible", they mean a system capable of running any existing Amiga software which can run on a third-party graphics card. This includes most current applications, but excludes the majority of games and demos. Since most customers for such a machine will already have a high-end Amiga system with a Picasso or CyberGraphx card, this is a reasonable baseline to aim for.

The most interesting part of the announcement is that their Amiga clone will be based on the PowerPC processor. They are rewriting AmigaDOS to run native on the PowerPC, and they will include 68000 emulation to allow existing application binaries to run unaltered.

However, they haven't stopped with the processor; just look at the promised system specification:

- 120 MHz PowerPC 603e processor
- 16 Mb RAM
- 1 Gb hard drive
- Quad-speed CD-ROM drive
- Hardware support for MPEG and 3D via custom chipset

- 24-bit display at up to 1600 x 1200 resolution, 72 Hz refresh
- Video-compatible and Genlock-compatible 24-bit output
- Pal/SVHS video input
- CD-quality audio inputs and outputs
- Fast SCSI-II controller
- Network interface
- ISDN interface

Phase 5 says the expected price for such a system, based on current component prices, is about £1400 ($2000). For an extra £400, you could get the high-end system which includes a 150 MHZ PowerPC 604e processor.

If they can meet this price point, not to mention their promise of backwards compatibility, they may actually be onto something. Pricewise, this stands up quite well against a similarly configured Pentium system, and the raw CPU performance would certainly be on a par with most current Pentiums.

How much of this is realistic, and how much is just idle fantasy on the part of Phase 5? According to Gerald Carda, Phase 5's Technical Director, the project has been under development for some time and is almost complete. They hope to publish a detailed system specification at the end of June; right now, they are considering patenting some of the concepts in the system, which precludes disclosure of the details until the application has been filed.

Phase 5 claims that over 250 developers, including all the main commercial Amiga software developers, have signed up for their PowerUP developers program (which is aimed at supporting existing Amiga owners via PowerPC upgrade cards); this is encouraging news. For more info, you can contact them at aproject@phase5.de or check their web page at http://www.phase5.de/.

The PIOS Strategy

Suppose you are sceptical that a third-party developer has what it takes to completely reinvent the Amiga. Well then, how about a compromise solution, working in conjunction with the current Amiga license holders? This is the route that PIOS is taking.

PIOS is a small startup company which states as its main goal the development of a PowerPC operating system based on the lines of the Amiga operating system. They also have on board several former Commodore employees, most notably Dave Haynie, who was the Commodore engineer responsible for the design of the A3000, and the author of the DiskSalv disk recovery tool. For more info, see their web site at http://www.Pios.de/ (not to be confused with http://www.Pios.com/ which is Pioneer-Standard Electronics!)

Dave Haynie's Comments on recent Amiga Events

Here's what Dave had to say about PIOS and the Amiga situation in an informal interview with Brian Sorli (sorli@clas.ufl.edu) of the Gainesville Amiga Networking Group:

[BS = Brian Sorli, DH = Dave Haynie]

BS: Can you clear up a few things about what is going on and what you are involved with?

DH: Sure.

BS: 1. Pios—a new company born from the ashes of the old and new Amiga groups. Does Pios exist and how are you involved?

DH: I guess Pios officially became a company on the 15th [May]. I'm working under contract as their hardware guru, much in the same capacity as when I was contracting for Amiga Technologies.

BS: 2. VISCorp—a lot of speculation about this company. Supposedly held a conference in France on 5/19 — not sure myself—we have heard nothing.

DH: I gather there was a conference on the 19th, but it was under NDA. I've only heard rumors of what went on. Last I heard, VISCorp is supposed to be making major announcements tommorrow (May 23, my birthday).

BS: Are you in communication with VISCorp and will Pios and VISCorp work together?

DH: Yes, and I hope so. I have e-talked with a few of the folks I know at VISCorp, but they couldn't really say much. The Pios strategy is really counting on the AmigaOS, since that's the enabling OS for low end multimedia systems (Pios may offer other OSs on their standard PPCP machine, just because that's easy to do and may let us have product before the PowerAmiga OS is done). I'm hoping VISCorp is open to collaboration on this. The one thing we definitely don't want is a fragmented AmigaOS—there has to be one API, one binary standard, etc.

BS: 3. Phase 5 — I guess they just got sick of waiting for Amiga Technologies to make the right moves.

DH: Perhaps, AT did take too long to start on the Power Amiga stuff (it didn't even start happening until late last November). I suspect everyone at AT was a victim of ESCOM's money problems, even back then (though we didn't know about them). I also think there's a little animosity on the part of phase 5 — I think they were expecting more an embrace of their stuff from AT than they got. They do, apparently, have a simple way of running an AmigaOS emulator on a PPC with native graphics support, though they didn't have anything ready to show last February. Since Andy [Finkel] and I were advising AT, we insisted in doing things right. Their approach on the software front is kind of a hack, and on the hardware front it's just too much like the old Commodore; at best, they'll wind up with interesting, non-standard, and overpriced machines that can't keep up with the rapid changes in the industry. Computing in the 90s is radically different than it was in the 80s or 70s. Things have just gotten more complicated. Chips are far more complex to design, so you need larger volumes to make them practical at all, and they might last only ½-1/4 as long in the market as their equivalents of 10 years ago. IC processes have gotten exponentially more expensive, to the point that only the top IC makers in the world have state-of-the-art fabs. and even these guys are having to get together on the next generation fabs.

BS: It is obvious Phase5 has big plans for the future Power Amiga and a lot to do with bringing the Power Amiga into existence.

DH: The real question I have about phase 5's plan, all practical bits aside, is this: will they sell you a Power Amiga, or a PhasePower system that, oh-by-the-way runs Amiga 68K binaries. They're talking about writing their own "advanced" OS as the native PPC part, and they're letting the 68K emulator hook into some bits, like their graphics subsystem. That's not the same thing as a real AmigaOS port, and I don't think the Amiga community can support multiple OSs—an Amiga runs the AmigaOS, and only the owner of that (presumable VISCorp) gets to say just what that is and isn't. Not to mention the fact that it takes a long time to write a good OS. I know of three new OSs written by experienced OS people (rare, in these days of Microsoft dominance): Scala's MMOS, the 3DO OS, and the BeOS. Scala and 3DO took each took over three years for their OSs, and neither was intended as a general purpose personal computer OS. Be's OS work started five years ago, and they're still clearly in the beta testing phase (with some modules not out of alpha yet). Either phase 5 is adpoting some other, unnamed OS, stealing the AmigaOS, offering up an ugly hack, or they're not shipping any new OS in 1997.

BS: The Pios homepage mentioned that Pios was planning on working with anyone and everyone to achieve the ultimate goal—bringing the ultimate Power Amiga to life.

DH: Absolutely.

BS: Are there any plans for Pios, VISCorp, Amiga Technologies, and Phase5 working together on this effort?

DH: Folks from Pios and VISCorp are meeting to talk this week. Amiga Technologies, far as I can tell, is no longer a factor—there are no technical folks left there. It's either a sales arm of VISCorp, a sales arm of ESCOM, or cancelled. It would be nice to get phase 5 to cooperate on the PowerAmigaOS, rather than going their own way, but I don't know if they will or not.

BS: We met at the Amiga Atlantic Banquet back in February... and I remember how knowledgeable and upfront you were with me and everyone you spoke with.

DH: Well, with all we've been through, the last thing the Amiga community needs is more bullshit. So I try to tell it like I see it, at least as far as any NDAs permit.

BS: Finally, if Pios plans on working with the other groups mentioned above everyone would benefit from this knowledge. Get the word out as soon as possible.

DH: All of Pios supports this kind of cooperation. Not that we have all that many people yet :-).

Phase 5 Answers comments made by Dave Haynie:

When the above interview was made public, Wolf Dietrich, General Manager of Phase 5, posted a long and detailed followup to address some of the points Dave Haynie made regarding Phase 5 and their plans.

He emphasised that there was no animosity between Phase 5 and Amiga Technologies; the Phase 5 PowerUP project was started primarily because they felt Amiga Technologies was moving too slowly towards the development of a PowerPC Amiga. He also refuted the idea that their operating system development was a 'hack', pointing out that much of what they are doing falls into the same category as 68040.library or 68060.library on existing Amigas; that is, providing transparent support for CPU features not present on older Amigas. Of course, when the processor is entirely new, rather more support is required....

He also argued that while Phase 5's PowerAmiga would certainly include proprietary technology, in addition to the usual standard components, this was not a fundamental flaw; the extra facilities were analogous to the custom ASICs that can be found on today's Pentium motherboards (e.g. the Triton and Neptune chipsets from Intel).

This argument might be more convincing if Phase 5 indicated that system components like video and audio support could be easily replaced by appropriate PCI cards, with corresponding software support. In any case, Phase 5 think that distinctive hardware is the only way to make an impression on today's competitive market. It's interesting the way the market seems to swing like a pendulum between fully proprietary and fully open systems...

Finally, Wolf reassured users that there would be no question of Phase 5 "stealing" the Amiga OS to run on PowerPC; everything would be strictly above board, though he couldn't speak for other companies.

VISCorp's Toulouise Gathering

On Sunday 19 May, VISCorp held a mini conference for Amiga developers, vendors, and users in Toulouse, France. By all accounts, it was a successful event, with over 250 people attending from around Europe. Interestingly, one of the morning sessions was broadcast live on IRC, allowing users from around the world to ask questions of the speakers!

The response from those who attended has been quite positive. VISCorp showed "ED", their Electronic Device, which is their prototype set-top box, and despite some compatiblity problems with France's SECAM TV system, they got it up and running (albeit in black and white). They also showed a new Amiga '060 motherboard which could be made available immediately, though no announcement date was given.

Carl Sassenrath was present, and outlined 24 specific additions to the Amiga OS that were being made to suport the set-top box environment and increase the Amiga's overall performance. He also hinted that VISCorp were reviewing the choice of PowerPC as the next generation Amiga CPU. While it seems unlikely that VISCorp would diverge from what has become a defacto industry standard alternative to the PC, it may give VISCorp more bargaining power with Motorola, who manufacture the PowerPC.

Motorola to port Amiga OS to PowerPC

Recently, a French magazine reported that Motorola have provisionally agreed to perform the port of the Amiga OS to the PowerPC if VISCorp agree to standardise on the PowerPC processor range for the next generation of Amigas. While you may ask why Motorola would do such a thing, it's worth bearing in mind that the 680x0 series of Amigas sold almost five million units, and as such, were considered a major processor customer by Motorola. Thus, they have a vested interest in seeing the Amiga live on, particularly with a Motorola processor like the PowerPC at its heart!

In fact, Motorola even had an in-house Amiga development team specifically to support Commodore engineers when a new 680x0 processor, such as the 68040, was released. Motorola also have significant expertise in important areas like compilers.

How this would tie in with the OS development efforts of Phase 5 and Pios is anyone's guess. However, it's certainly a very intriguing prospect!

All in all, there's a lot going on with the Amiga just now; the coming months should prove very interesting for those following its fortunes.

Buy & Sell

Olivetti JP150: Inkjet printer. Good condition, HP compatible. Phone Gavin on 280 0742.

VLAB Y/C: 24-bit high-resolution framegrabber card, for use with A2000, A3000 or A4000. £90. Phone Eddy on 287 4566.

17" Monitor: Wanted a 17" monitor, must be in very good condition. Phone Gavin on 280 0742.

Flatbed Scanner: Wanted, 24bit colour flatbed scanner, must be in very good condition. Phone Gavin on 280 0742.

World of Amiga Show Report

by John & Janet Bickerstaff

John & Janet are both members of the ICPUG national committee in the UK; they attended the World of Amiga show in the Novotel, Hammersmith, in April. This is their report.

WE attended the World of Amiga during April. The Novotel lower floor was bulging at the seams. By noon the organisers were pleading over the PA system for some people to go home so that they could let in more from the queue which stretched round the block. The aisles were jammed solid. It was quite small, only about thirty stands, all doing great business. Who said the Amiga was dead?

The Amiga Technologies stand was staffed by a team from Germany. They were showing the Amiga Surfer pack and the prototype Amiga Walker—a weird looking device nicknamed by some "K9" and, less politely, the "Dung Beetle" by some. Although the Amiga Surfer modem works perfectly in Germany, it just did not want to work on the stand. Some people suspected the UK dialling tones and others blamed the software.

As you know, VIScorp are buying AT. The VIScorp team were there in force, along with Petro Tyschtschenko and Gilles Bourdin from AT and they were overwhelmed by the crowds. At lunch time, they announced a press conference at 4pm, but as the afternoon went on everyone was in such high spirits that they decided to throw a press conference combined with an exhibitors party at 5.30pm. Some of the Amiga magazines, VIScorp and AT took care of the bill. We left at 7.30pm but it was still in full swing.

We spent some time talking with Curtiz Gangi from VIScorp (ex-CBM) during the afternoon. Then at the press conference Bill Buck, CEO of VIScorp, came and chatted with us. He said the most important people are the users and he has asked us to report back on user reaction. Don Gilbreath was there and we talked about old times, particularly the Orlando DevCon, and the future "dream machine". We talked about Jim Butterfield, Jim Mackonochie and great times with real machines like the VIC-20 and C64.

VIScorp are going to hold an official press conference at Frankfurt on April 24 when they will announce their intentions for the Amiga. Bill Buck was grilled by the UK developers and press. He emphasized that they are looking at all aspects of Amiga development, but their real interest is in interactive TV and set-top-boxes. They will continue to develop and market the Amiga in conjunction with Amiga Technologies. Carl Sassenrath, Dave Haynie and Andy Finkel are under contract to them, working from home.

Bill Buck wants to hear from anyone with ideas or suggestions to put forward on the future of the Amiga or who is interested in development work. His email address is `buck@vistv.com`.

The CUGI Library

by David Fitzgerald

The CUGI library has a good selection of technical books pertaining to the Amiga, including works such as the ROM Kernel Reference Manuals (for 1.3 as well as 2.0), guides to the 68000 CPU and 68881/68882 FPU, and 'C' programming references. Also of interest to programmers is the *User Interface Style Guide*, which is the official guide on creating a standard user interface.

There are also some more general books, for example, the *Desktop Video Guide* and *Amiga Tricks and Tips*. If you have one of the older Commodore machines, such as the C64 or C128, you'll find plenty of books relating to the hardware and programming of those machines.

You are probably aware that the CUGI library also has some hardware available for loan. This includes an audio sampler, a video digitiser (the VIDI-12) and a hand-held scanner. Other items of general interest are Amiga-related videos and previous issues of the CUGI newsletter.

Here is a list of what is available through the library. This list is also available on CUGI-BBS which, to remind you, recently changed number to (01) 837 0204.

Commodore Reference Manuals

Amiga ROM Kernel, Libraries (2.0)
Amiga ROM Kernel, Devices (2.0)
Amiga ROM Kernel, Includes and AutoDocs (2.0)

Amiga ROM Kernel, Style Guide

Amiga ROM Kernel (full set of Kickstart 1.3 volumes)
AmigaDOS Manual 3rd Edition
Workbench 3.0 User's Guide
Workbench 3.0 User's Guide AGA Supplement Enhancer Software (OS 1.3 reference)
Using the System Software (OS 2)
A2000, A500 Amiga BASIC Manual
A1200 User's Guide
A1200 User's Guide Service Supplement
1084S High Resolution Monitor Reference Manual
A590 Reference Manual

C Programming

Amiga C for Advanced Programmers (Abacus Books)
New C Primer Plus (The Waite Group)
The C Library (McGraw-Hill)
The C Programming Language - 2nd Edition (Kernighan and Ritchie)
Programming in C
C quick reference (Que)

General Interest

AmigaDos Inside and Out (Revised Edition also)
Amiga Disk Drives Inside and Out (Abacus Books)
Amiga for Beginners
Amiga Intern
Amiga Tricks and Tips (Abacus Books)
The Amiga System: An Introduction
Compute!'s Beginners Guide to the Amiga Amiga for Beginners (Abacus Books)
Kids and the Amiga (Compute!)
Amiga Applications (Compute!)
Amazing Computing's guide to the Amiga (summer 92)
CD-ROM (vol 2) Optical Publishing (Microsoft Press)
Looking good in print
Amiga Format Book
ICPUG Newsletters

Graphics

Becoming an Amiga Artist
Deluxe Paint II User's Manual
"Amiga World" Official AmigaVision Handbook Inside Amiga graphics (Compute!)
Using Deluxe Paint - 2nd edition (Compute!)
Amiga Desktop Video Power (Abacus Books)
Amiga Desktop Video Guide (Abacus Books)
"Video Toaster User" magazines

Programming

Amiga Guide for Advanced Programmers
Amiga World tech journal Dec 91
Amiga world tech journal Feb 92
68000 Pocketbook (Glentop)
MC68881/MC68882 Floating-Point Coprocessor User's Manual (Motorola)
Amiga Programmer's Handbook (Sybex)
Mapping the Amiga
Microcomputer Puzzles

Commodore 64/128

C64 Programmers Reference Guide
C128 Programmers Reference Guide
C64 Service Manual
C128 Service Manual
Advanced C64 Machine Code

The Anatomy of the C64
The Anatomy of the 1541

Hardware

Audio Sampler
Video Backup System
2400 baud Modem
Video Digitiser
Power Scanner

Games Software

Castle Master
Mercenary
StarFleet I
Murder!
ArmourGeddon
Gunship
TV Sports Baseball
John Madden American Football (Platinum Edition)
Indianapolis 500 (Platinum Edition)

Videos

History of the Amiga
The Deluxe Paint IV Video Guide
Amiga Animation Video Volume 2
CU Amiga's Guide to Amiga Video
Space Wars

New CD-ROM Additions

CUGI recently added two new CD-ROMs to its library. *Gold Fish* contains all 1,000 Fred Fish disks, while *Fresh Fonts* has over 100 shareware fonts, each in Adobe, Bitmap, CompuGraphic and TrueType formats.

The library also received some classic games (listed above) from Tommy Rolfs, as he left for pastures new.

Library Rules & Fees

Starting from February 1995, the charges and fines are now updated to reflect the change from bi-weekly to monthly meetings. The fine for overdue items is now £1.00 (increased from 50p). This is hardly excessive, since I've not yet had to enforce it.

Currently, charges are as follows:

Item/Category	*Deposit*	*Rental*
Sampler	£5.00	£2.00
Video Backup System	£5.00	£2.00
Modem	£5.00	£2.00
Video Digitiser	£10.00	£5.00
Scanner	£20.00	£5.00
CD-ROMs	£4.00	£1.00
Videos	£2.50	£2.50
Games	£2.00	£1.00

The deposit for the scanner is relatively high because it is a delicate piece of hardware. Since items in the library are effectively investments by the user group and members thereof, it is expected that members borrowing hardware items should be especially careful that the instructions are read and understood before use. The same guideline applies to the other items available.

Thank You

Suggestions for library services are welcome, as are donations of items for inclusion in the library! Anyone interested in any items (whether listed or not) is welcome to talk to me at any of the monthly meetings.